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# UNVEILING THE GLOBE

URRICULUM

DEPARTMENT OF EDUCATION
Edmonton, Alberta

# ACKNOWLEDGMENT

This Resource Unit has been published under the direction of the Provincial Elementary School Curriculum Committee of the Department of Education, which appointed a Resource Unit Sub-committee to evaluate and revise resource units prepared by various school systems, with a view to making those of outstanding value available to the teachers of this province.

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"Unveiling the Globe" was originally compiled by the Edmonton Teachers' Association in co-operation with the Edmonton School Board. It has been revised by Mr. C. R. Driver, formerly of Edmonton, under the direction of the Resource Unit Sub-committee.

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# UNVEILING THE GLOBE

## SECTION A

**Theme for "Outlining the World"**

The world no longer has dark corners. Fifty to sixty years ago our teachers were still able to thrill us with stories of valiant but futile efforts to probe the silence of the poles; Sahara was a vast question mark; no travellers' tales had come back from Tibet; and men had failed to conquer Everest. Today there remain only a few shores to be charted in the Antarctic, and a few score peaks to be climbed. Man has virtually conquered and ransacked the face of the earth.

Let us go back 2,500 years and suppose we were among the more fortunate children who went to school and learned geography in the year 500 B.C. Our geography in those days of crude sailing vessels, slaves, constant wars, etc., would have been quite interesting. At any rate we would not have much ground to cover, for the world map showed, in a queer crooked form, only the lands around the Mediterranean Sea—southern Europe, northern Africa, and a small part of Asia—and all of these lands were surrounded, the people believed, by a vast, unending ocean inhabited by fearsome sea serpents that swallowed ships at one gulp.

That could be the starting point of our enterprise on discovery and exploration and we should construct and complete the world map as the last two thousand years have constructed it, adding each new morsel of territory, each new expanse of sea, as the geographers added it when the sea-dogs came home from afar.

Note:—This resource unit has been designed to fit Gd. V, Section C but it may also be of value in other sections of the Gd. V program.

## AIMS AND OBJECTIVES

This unit has excellent appeal to the love of adventure characteristic of children at the Grade V level. Besides providing many opportunities for the improvement of reading, language and other fundamental skills, it will be found to be an ideal basis for kindling an interest in maps and globes and other important geographical concepts. The teacher will select from the objectives below those which are applicable to her own situation.

**The objectives are applicable to all sections of the resource unit.**

**I. Attitudes and Appreciations:**

1. Grade V pupils should develop an appreciation of the difficulties encountered by discoverers and explorers.
2. They should appreciate how and why the different continents were unfolded and the oceans discovered.
3. They should appreciate the use made of existing knowledge, equipment, materials, and natural resources by the early explorers.
4. The pupils should appreciate the motives which sponsored the discoveries—desire for wealth in gold or furs, for new homes, for religious freedom, for the legendary North-West Passage, and for pure adventure.
5. They should also appreciate the love of freedom and personal liberty that helped to initiate the discoveries.
6. The age of discovery was shared by many nations, and the heroes of history represent a cross-section of nationalities. To know the debt we owe to men of all lands develops an attitude of respect for people of all countries.
7. The pupils should appreciate the fact that physical features and distance relationships were vitally important long before political claims were ever considered.
8. Loyalty is more than a knowledge of history and geography. To the Grade V child this enterprise should have an appeal that will be basic to an abiding pride and love for Canada.

These objectives are a guide only. Check them from time to time as the enterprise develops and at the conclusion to see how many have been realized.

**II. Geographical Learnings:**

1. The conquering of the barrier of the Atlantic.
2. Proof that the world was round turned Europe's attention westward.
3. Discoveries of Columbus opened a new world for exploration.
4. Location of the Far East and the countries which comprise it.
5. Location of the Atlantic and Pacific Oceans; their comparative size.



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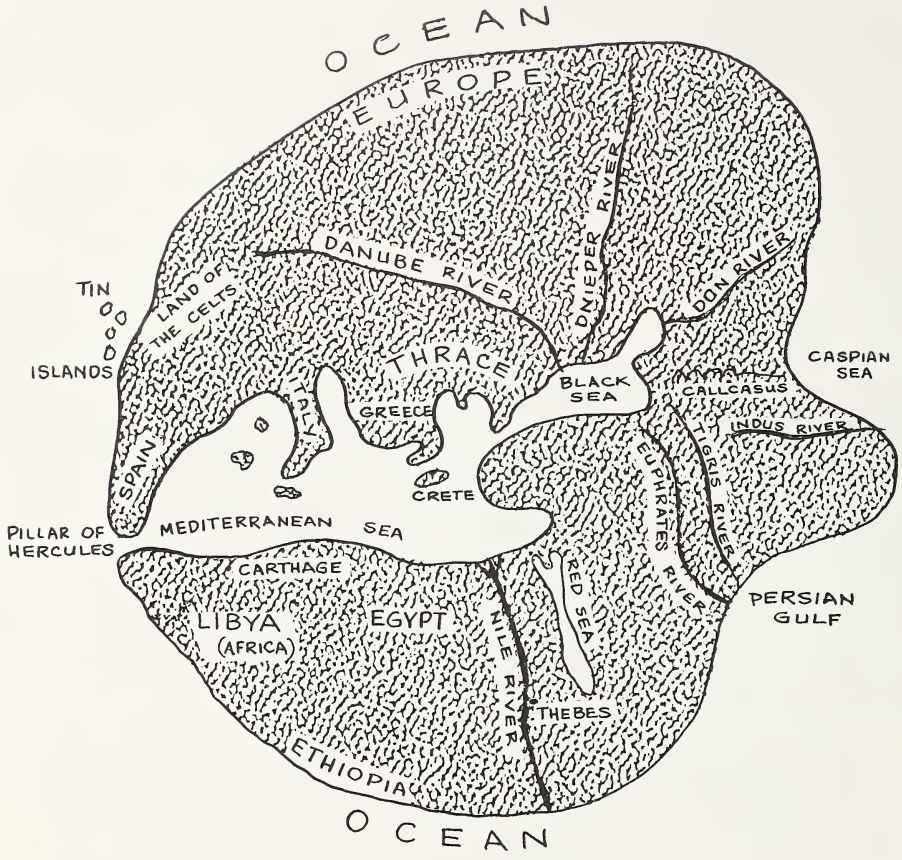



This is a copy of one of the first maps ever made. It shows all the lands that men knew. The map-maker, Hecataeus of Miletus, was a Greek, so he placed his country in the middle of the map because he believed Greece to be the center of the world.

6. Location of North and South America.
7. Routes followed by the explorers; places touched.
8. Water route to China as looked for by the early explorers.
9. The Northwest Passage was of little real value.
10. The nature of the country as the explorers found it.
11. Claims made by the Spanish, French, Dutch, and English resulting from discovery or exploration of certain regions.
12. The discovery of Antarctica and the position of the North and South Poles.

**III. Historical Learnings**

1. Reasons for Europe's interest in the Far East.
2. Stimulation of that interest by Marco Polo's book.
3. Attempts to find a water route to the Indies were encouraged by Prince Henry.
4. Attempts of Columbus to reach the East by sailing west, resulted in the discovery of America.
5. The French were among Canada's first explorers.
6. The fur-trade "paid" for Canadian exploration.
7. Circumnavigation of the globe by the ships of Magellan proved that the world was round and that the Americas were separate continents.
8. Naming of the Pacific by Magellan.
9. Naming of America for Americus Vespucius.
10. Discovery of the mainland of North America by John Cabot gave weight to England's claim to the eastern coast.
11. Discovery of the Hudson River by Henry Hudson gave the Dutch reason to claim the surrounding region.
12. Voyages of Francis Drake giving England claim to the western coast.
13. Claims of the four great European powers to large sections of North America; the overlapping of some of these claims.
14. Awakening interest of Europe in the New World as a place of opportunity for trade, adventure, and expansion.

**IV. Health Learnings:**

1. Spices were once a very important part of the diet.
2. Scurvy is caused by lack of proper foods.
3. Vitamins are vital to health.
4. Smallpox was a dread disease when vaccination was not available.
5. Heavy protein diet is suitable for heavy labor.
6. Early explorers had no concentrated foods.
7. Enthusiasm is a good doctor.
8. Red men were susceptible to white man's diseases.
9. Diseases from the East were brought by ship rats to European ports.

**V. Science Learnings:**

1. The stars served as navigation points for early seamen.
2. The sun was an important aid to exploration.
3. Sea fog and storms are caused by warm air meeting cold air.
4. Modern seamen employ many safety devices that the early explorers did not have.
5. The use the early explorers made of the compass and the astrolabe.
6. The final proof that the earth is round was circumnavigation.
7. Early seamen had many superstitions about the earth.
8. The winds over the earth blow in a definite pattern.
9. Early seamen were skilful at using the force of the wind.
10. Many new foods and a more plentiful supply of known foods were found in America.

**VI. Abilities and Skills:**

1. Pupil research must be preceded by a specific plan of action which outlines the information desired. The teacher can guide this work with lists of questions to be answered by the pupils.

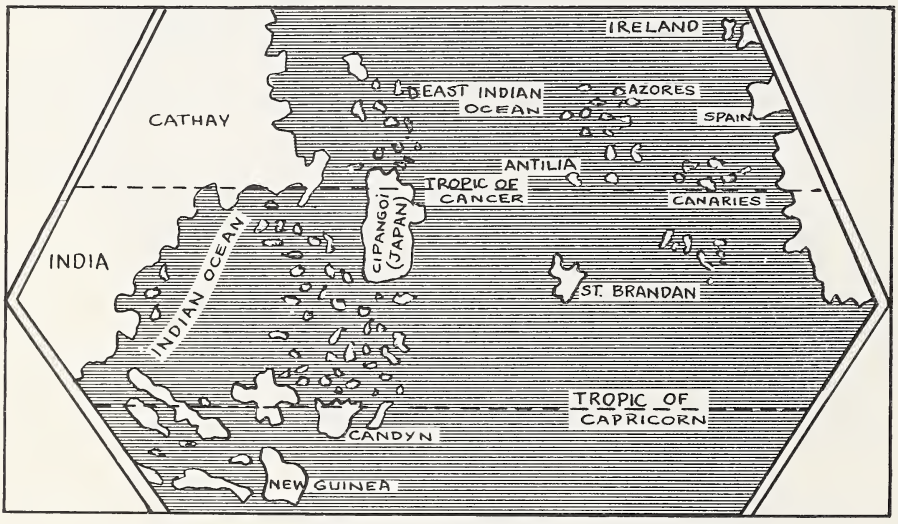
2. Develop pupil ability in writing five or six-sentence paragraphs in a report. Guide the child's first efforts with a plan or pattern.
3. The child should gain additional skill in research habits. Stress the proper use of an index, table of contents, glossary, cross reference, key words; and the interpretation of maps, globes, charts, graphs, diagrams, and pictures. Stress the skill in ability to read for information or pleasure, to skim and to outline.
4. The children should compile a class spelling list of new enterprise words as they are encountered. A blackboard panel might be used to encourage the development of this habit.
5. The pupils should develop initiative, and at the same time learn how to work harmoniously in groups; how to plan a job and carry it through.
6. They should develop skill in arithmetic by computing geographic distances, scales, time, time lines, latitude and longitude, etc.
7. Skills in art should grow from experiences in construction, modelling, figure drawing, pictures, friezes, murals—dress, colour, composition, and balance.

**Some Motivational Ideas:**

Use some combination of the following suggestions to assure genuine pupil interest at the outset of the enterprise. Lagging interest may be revived by introducing a new and fresh stimulus.

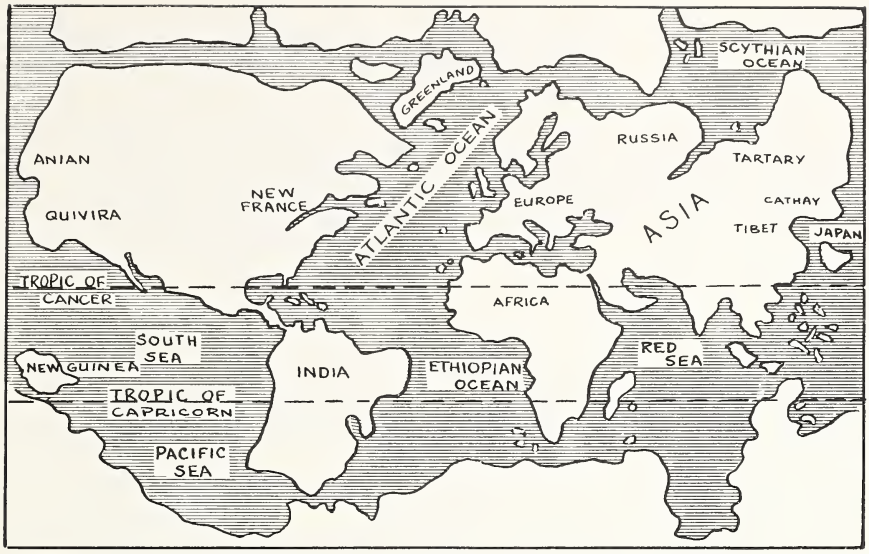
1. Show the class some old-time maps.
   E.G.: The map under "Theme" for this unit. Ptolemy (Duvoisin, "They Put Out To Sea", Knopf; Maclean's, March 1954 and February 1956).

Show any associated pictures, charts graphs, etc.—See "References" at end of Unit. Use opaque projector if available. The following maps would also be interesting to compare to a present-day map.



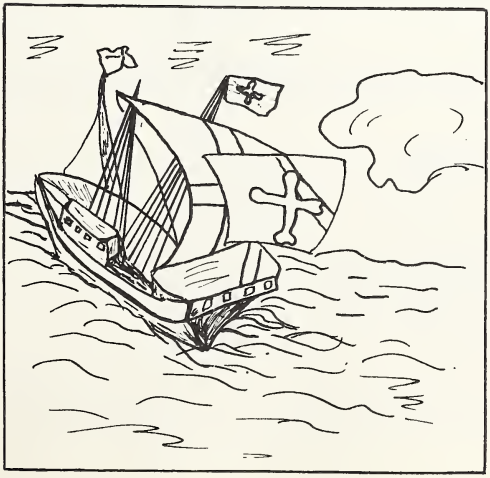

This map was made in 1474 by an Italian named Toscanelli. Christopher Columbus used it as a sailing chart. Toscanelli, as you see, had no idea that the great American continent barred the way to the navigator trying to reach Asia by sailing due west from Europe.

2. Reading from related stories and poems, e.g. Marco Polo, Travellers' Tales, How Canada Was Found, and others suggested in the references at the end of this unit. Teacher's reading: After You, Marco Polo by Jean Shor.
3. Songs: From the Song Book, "Songs of Discovery and Exploration" by J. M. Dunsmore. Also songs from the Canadian Singers III, IV, V, and VI listed at the end of this Unit.
4. Show films and film strips on discovery and exploration listed at the end of this unit.
5. Review all well-known songs about Canada: O Canada, The Maple Leaf, etc.
6. Discussion on early heroes of the seas.
7. Show pictures of early explorers, their ships, and navigation instructions and use the references at the end of this unit.
8. Set up an exhibit of some of the pictures, charts, maps, diagrams, graphs, globe and all the related reference books.




This map was made in 1569 by the Flemish geographer Mercator. By this time the new world to the west had been discovered and explored. Therefore, Mercator was able to give an outline of North and South America that we can easily recognize, even though the shape and proportions of the two continents are inaccurate.

An Astrolabe—An Early Instrument of Navigation



Typical 15th Century Ship

### Some Suggested Titles

Children are intrigued by exciting titles for their enterprises. Here are a few for them to consider. Encourage them to suggest titles of their own.

1. The World Unfolds
2. Unveiling the Globe
3. Finding the New World
4. Exploration, Adventure, and Discovery
5. Adventurers All
6. New World Horizons
7. Early Explorations
8. Discovering Our World
9. Treasure Trails
10. In Search of the Western Sea
11. Rolling Back the Clouds
12. By Star and Compass
13. Steer for New Shores
14. They Lifted the Veil
15. Into the Mists

### Preliminary Preparation:

A. Develop necessary geographical background.

1. Canada's position in relation to the rest of the world. Viz.: Map of the world locating, naming, and coloring continents and oceans.
2. Location of the Equator, Tropic of Cancer, Tropic of Capricorn, Arctic Circle, and Antarctic Circle.
3. Compare area of the continents. Graphs illustrate this well. Equal area maps or study of the globe will give best results. (Don't use Mercator's.)
4. Compare products found in Torrid Zone with those found in the Temperate and Frigid Zones.

B. Gather listed books from school library and public library and begin reading.

C. Preliminary Discussions: By question and suggestion, help the pupils to make a survey of the possibilities of the topic. Plan a tentative culmination, and outline the problems to be solved.

#### Suggested questions for discussion:

1. Why were the early explorers interested in discovering new lands?
2. What were some of the difficulties they had to face?
3. What equipment did they have for navigating strange seas?

D. The pupils should decide what they will need. e.g. books, pictures, maps, salt, flour, large piece of cardboard, microphone, music, record player, clay for models, etc.

### Awareness of Success and Improvement

The teacher should help the children to know of their successes and improvements through:

1. Individual progress charts, when applicable.
2. Verbal recognition by the teacher.
3. Testing.
4. Verbal recognition by the class.
5. Interpreting test results for them as a group and as individuals.

### Provision for Responsibility

The teacher should provide opportunities for developing group and individual responsibility through:

1. Room committees.
2. Bulletin Board committees.
3. Club activities.
4. Group leaders or chairmen.
5. Class librarians.
6. A reception committee for visitors.
7. Carrying on class without teacher.
8. Individual and group work.

### Possible Culminations:

1. An animated map with a time chart, and a broadcast on which each explorer tells his story.

2. A pageant, with musical background, which tells the story of adventure, Exploration, and Discovery. Have a commentator give the time sequence and related information. Invite the parents or another class to be the audience.
3. Movie—Two handle reels. One delivers lecture. "Films" made by pupils on long sheets of brown paper.
4. Display of ships, models, etc.—Class to inspect while guides interpret.
5. Dramatization of "Unfolding the Map". A large map of the world to be held in front of the class with unknown parts covered. As each "Explorer" delivers his speech the route is followed with a pointer on the map. At the conclusion of it the proper part of the covering is removed. Music played between each speech would heighten the effect. Date cards could be exposed with each explorer.

**Suggested Evaluations:**

1. Throughout the Enterprise, check to see if the pupils know:
   (a) The usual motive behind exploration.
   (b) The effect that opening up of new land has on peoples of the world.
   (c) The part science has played in aiding discovery and exploration.
   (d) The adventurous spirit, courage, and daring needed to undertake these exploits.

II. The pupils should know:
   (a) Something of the conditions in Europe at the beginning of the Age of Discovery and Exploration.
   (b) The essential information about the important explorers, e.g. Why have we remembered this man or that man when millions of others have been forgotten?
   (c) How to locate the discovered places on maps and globes.

III. The pupils should be advanced in:
   (a) Understanding the use of reference books and maps.
   (b) Written and oral expression.

IV. Throughout the enterprise the teacher should observe the pupils to:
   (a) Note how each student works with his group.
   (b) See whether each child perseveres in seeking answers.

V. A "teacher-pupil" evaluation by means of discussion, is often invaluable.

VI. Subjective and objective type tests, such as the ones offered in this unit, can be given at intervals throughout the unit. Properly administered, such tests stimulate interest, increase industry in research, and serve to let the teacher know the points of weakness. The teacher may then cover these with formal lessons, or by means of some other device or technique suitable to the particular situation.

**Vocabulary**

astrolabe
Atlantic
attack
attempt
California
Canada
caravan
charts
French
galleon
Henry Hudson
Indies
interpreter
Jacques Cartier
John Cabot
Magellan
mainland
Montreal
mutiny

**(Alphabetical)**

circumnavigate
claims
Columbus
company
continent
discover
discoverer
discovery
natives
claims
New World
North America
Old World
Pacific
Panama
Philippines
pirate
royal court
rudder

**Spelling**

England
exploration
explore
explorer
Far East
fleet
France
Francis Drake
sailing chart
St. Lawrence
sea route
South America
South Sea
Spain
Spaniards
Spanish
trade routes
trinkets
voyage

## PROBLEM I—IN THE BEGINNING

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Soc. St. | Discussion map comparisons | The earliest dwellers on earth were familiar with only a small territory right around their own homes. Who, then, discovered the surface of the earth? When? How? Why? | |
| | Research | Development of sea-going craft from logs to ships. | pict. 6-18 |
| | Teaching | Early Egyptians—trace routes. | pict. 1-3 |
| | Committee | Phoenicians—first deep-water sailors. The founding of Carthage; Hanno's voyage along western coast of Africa. | Pict. 4 |
| | Committee | The Greeks—<br>1. Herodotus, "Father of Travel". The wonders he saw and recorded.<br>2. Pytheas visits Spain, Britain, Thule. His interesting observations.<br>3. Alexander the Great's conquest aids exploration. Nearchus's voyage. | Pict. 5<br>B - 106 |
| | | Collect information and summarize it for written and oral reports. | |
| | | Add new words, particularly place names, to vocabulary list. | |
| | | Individual note-books, with title page, table of contents, important facts and interesting anecdotes, pictures, drawings, glossary, etc. | see suggested vocabulary list. |
| | Committee | Begin construction of a large world map. Method: background of blue crepe paper. Mark latitudes and longitudes along edges with straight pins, and criss-cross with white thread. Make cut-outs of either continents, countries or sections of exploration, and add them to the map as they are discovered in sequence of time. Can be built up throughout entire enterprise. | Atlas |
| | Committee or individual Research | Construction of wooden or papier mache dug-outs, early ships, etc. | pict. 6-18 |
| | Individual | Animated maps showing land marks (i.e. pyramids, Parthenon), costumes, legends, sea-monsters, strange animals, etc. | |
| | Committee | Frieze showing pioneers of exploration and depicting their tales. | |
| Drama | Committee | The voyage of Nearchus: scenes with Alexander the Great. | |
| Science | | Copernicus—<br>Early methods of navigation—i.e. position of stars, legends. Astrology. | |
| Health | | How a widening world contributed to the people's comfort and health. | |

## TEST ON PROBLEM 1

1. What tribe of people were the first sailors in history who dared to sail beyond the sight of land? (Phoenicians)

2. Why were the people of the ancient world so slow to start exploring the earth? (answer) 1. fear of the unknown, 2. no instruments, 3. small ships, 4. superstitious i.e. (a) earth was flat, (b) one could fall off edge, 5. no knowledge of wealth of other lands.

3. What were the three most important trade goods in early times? (tin—Spain, lumber and furs—Europe, spices, gold and jewels from the East).

4. What were the three most important trading nations in the early times? (Egypt, Phoenicia, Greece.)

5. Explain how man first ventured from shore and what kind of sailing craft he used.

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Geo. | Teach | Locate Venice geographically. Tell class about canal "road-ways" in this city. | C |
| Soc. St. | Committee Research | Reasons for the great wealth of Venice during 13th century. | |
| | | Trade with India and the East was carried on overland by means of camel caravans. No sea route had been discovered yet. | Map 4 |
| Geo. | Individual Research | Locate Mediterranean and Black Sea ports where Venetian merchants exchanged goods with the East. | Map 4 |
| History | Teach | Venice was the gateway through which the wonderful products of the Orient came to Europe. The most famous Venetian traveller was a boy named Marco Polo. | C Map 4 |
| Soc. St. | Committee | Learn about Marco Polo's family background: viz.: wealthy merchant nobility class. His father, Nicolo, was also a traveller. | |
| Lang. | Committee | Pool and summarize reports.<br>Revise and give reports. | |
| Soc. St. | Teach | Marco Polo literally walked to China. Left Venice in 1271. Reached Peking in 1275. | Map 4 |
| | Committee | Route followed through burning sand, fever-filled swamps, frozen plains, and passes in the highest mountain ranges in the world. | Map 4 |
| Drama | Play | Illustrate journey of the Polos. | Map 5 |
| Geo. | Individual | On map mark the route followed from Venice to Peking. | |
| Soc. St. and Lang. | Committee | Research and report on reception given by Kublai Khan. How Marco Polo was given important positions in the court of Khan. | |
| Read | Individual or Committee | Extent and wealth of the Mongolian Empire under Kublai Khan. | C |
| | | Story of Marco escorting a young princess to Persia on his homeward journey. | C |
| Geo. | Pupil and Teacher Discussion | Sea routes Marco followed on his return trip from Cathay to Venice—points touched. Home 1295, via Black Sea. | Map 5 |
| Soc. St. | Committee | Learn about cool reception in Venice. People doubted stories. Marco produced fortune in precious stones. | |
| Art. | Committee | Frieze to illustrate Marco ripping open the seams of his ragged clothing and producing a fortune in rubies and other jewels. | |
| Health | Teach | Salt and spices brought from the East were added to the European diet. | |
| Science | Teach | Primitive mariner's instruments used when sailing. | C<br>See Astrolabe |
| Soc. St. and Lang. | Committee Research | Learn how Marco was thrown into prison—War between Venice and Genoa—and there wrote his famous book, "The Book of Marco Polo" which greatly influenced later explorers, especially Columbus. Write and present reports. | C |
| Geo. | Chairman | Place territories and routes on large class map. | Map 5 |
| | | BARTHOLOMEW DIAZ | |
| Geo. and Sociology | Teach | Location of Portugal in relation to Europe and Africa. Poor trading relations with Spain. Forced to take to the sea. | Map 4<br>Map 6 |

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Soc. St. | Teacher Pupil Discussion | The spirit of Prince Henry the Navigator lived on among the sailors of Portugal. | C |
| Soc. St. | Audio-Visual | Film-strips, movie, or picture on opaque projector on Diaz or relevant period. | C |
| Lang. and Soc. St. | Committee | Many early trips of Diaz to Guinea coast. Brought back ivory and gold to King of Portugal. Prepare and present reports. | |
| Soc. St. | Teach | The King was so pleased he put Diaz in charge of an expedition to explore and chart the whole west coast of Africa. | Map 6 |
| Geo. | Individual | Put latitudes, longitudes, and equator on maps of Africa. Mark 0° Lat. and 0° Long. | |
| Soc. St. | Committee Research | Trip from Portugal (3 ships) to southern tip of Africa. Diaz was blown around Cape. As a result he called it "Cape of Storms". Later renamed it "Cape of Good Hope" by King of Portugal so as not to discourage future explorations. | C |
| Art | Individual or group | 12" x 18" pictures of frieze showing Diaz being blown around Cape. | |
| Lang. | Group | Organize and present reports. Show maps, pictures, charts, etc. | C<br>Map 6 |
| Soc. St. | Teacher-Pupil Discussion | When the coastline began to run northward Diaz knew he had rounded the southern tip of Africa and was now in the Indian Ocean. | Map 6 |
| Health | Teach | Many of the men had died from cold, disease, and malnutrition. The remaining ones forced Diaz to return to Portugal. | C |
| Science | Groups | Astrolabe and compass and parts of ship. | Pict. 19, 20<br>Astrolabe |
| Soc. St. | Discussion | The King was delighted with the success of the voyage and with all the maps and charts that Diaz had made and brought back. | |
| Drama Lang. | Play | Write play illustrating the times and voyages of Diaz. | |
| Geo. | Leader | Put new territories and sea-route on large map in front of class. | Map 6 |
| | | VASCO DA GAMA | |
| Soc. St. | Teach and Discuss | Ten years after Diaz made his famous journey around the Cape of Storms, another young Portuguese sat reading "The Book of Sir Marco Polo", just as Columbus had done. He pored over maps, charts and Ptolemy's "Geography". The King of Portugal was still sure that a sea-route to India did exist. In July 1497 he sent a fleet of four ships, under the command of Vasco Da Gama, to India, sailing around the southern tip of Africa. | C<br>Map 7 |
| Soc. St. | Audio-Visual | Available films or film strips about da Gama or relevant times or places. Discuss. Also show pictures on opaque projector. | E<br>C |
| Geo. | Individual | Mark da Gama's route on individual maps Chairman use pointer on world map. | Map 1 |
| Soc. St. | Committees | Gather information on experiences of da Gama and his men while sailing from Portugal (Lisbon) to India (Calicut). Points touched. | |
| Health | Discuss | Many men died of scurvy. Lack of Vitamin C in fresh fruits or vegetables. Discuss use of limes and the term "limey". | |
| Lang. and Drama | Committee | Write a play illustrating reasons for da Gama's journey and experiences he had. | |

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Oral Lang. | Committee | Present reports on experience and places touched. Show maps, charts, and pictures. | Map 7 |
| Drama | Committee | Present above play. | |
| Soc. St. | Teach and Discuss | In India the Arab traders were jealous of the Portuguese and stirred up the Indians against them although the King greeted the visitors pleasantly. | C |
| Soc. St. and Lang. | Committee | Trading experiences of da Gama and his men while in India. Prepare and present reports. | C |
| Soc. St. and Lang. and Health | Committees | Experiences and route of trip home to Portugal. Rich cargo of cinnamon, cloves, ginger, nutmeg, pepper, and precious stones. Many more died of the sailor's dreaded disease—scurvy. Prepare and present reports. | C |
| Science | Teacher Pupil Discussion | The astrolabe, the compass, and the stars were the main guides the sailors had. | D<br>Pict. of Astro.<br>Pict. 20 |
| Soc. St. | Reading | Read about the friendly welcome home da Gama received—especially in the court of the King of Portugal. | C |
| Lang. | Committee | Write and present reports on welcome home. | |
| Soc. St. | Teach and Discuss | Da Gama returned with only one ship instead of four and only fifty-five men instead of one hundred and fifty. Emphasize that even more important than the cargo da Gama brought home was the fact that he opened a trade route between Europe and the ports of Asia which has never since been closed. Da Gama was made Viceroy of India. | |
| Lit. Appreciation | Research | Poems and stories about the travels and adventures of Vasco da Gama. | C |
| Geo. | Chairman | Place territories and route of da Gama on large map in front of class. | Map 7 |

## TEST OR PRE-TEST ON PROBLEM II — MULTIPLE CHOICE

I. a) Cathay is now called (1) China (2) Ceylon (3) Japan.

b) After Marco Polo came home to Venice from his journey to Cathay, merchants from Europe (1) Journeyed to Cathay to trade, (2) took little interest in trade with Cathay.

c) Bartholomew Diaz sailed (1) to China (2) Around the southern tip of Africa (3) to India.

d) Vasco da Gama sailed from Europe to India in the name of the King of (1) England, (2) France, (3) Portugal.

e) Vasco da Gama's most important contribution to history was (1) the rich cargo he brought home, (2) the fact that he opened an all water trading route between Europe and Asia, (3) the fact that he became a famous explorer.

Answer the following in full paragraphs:

II. Explain carefully why Portugal became one of the great leaders in world trade in the 16th century.

III. Give as complete a list as possible of the problems da Gama would face as a mariner in 1486.

## PROBLEM III — CIRCUMNAVIGATION OF THE GLOBE

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Soc. St. | Discussion | Review theories regarding shape of the earth. | |
| | Committee | Ferdinand Magellan — proof that the world is round. Hardships and hazards—compare starting ships and crew with those remaining. Trace route. Magellan's tragic death. Barbosa takes over. | Map 8<br>A 35-38 |
| | Committee | Sir Francis Drake, pirate for a queen! The boy captain. Catholic Spain against Protestant England. Drake's famous drum. The voyage around the world. The defeat of the Spanish Armada. | A 57-60 |
| Lang. | Committee<br>Research | Collect information and summarize it for written and oral reports. | |
| | Committee | Make booklets. Add new words to vocabulary list. i.e. circumnavigation, privateer, etc. | |
| Drama | Groups | Play, movie, or radio program illustrating the adventurous spirit of Drake and episodes from his colorful career. | |
| Art | Individuals or Groups | Costumes worn in the Elizabethan Age. | |
| | Committee | Magellan's route on an animated map. | Map 8 |
| | | Battle scene of the Spanish Armada (skip details). | |
| | | Ship modelling. | Pict. 19 |
| | | Figures in action—papier maché (i.e. Magellan's death). | |
| Lit. | Class Study | "Drake's drum." | |
| | Audio-Visual | Department of Extension filmstrips (Magellan — Drake) | See list of A. V. Aids at end of unit |

### TEST ON PROBLEM III

1. From which country did Magellan sail? Trace his route around the world. (Magellan was killed in the Philippines, but his ship continued home.)
2. Write a brief paragraph on Drake's childhood and early days at sea.
3. Why does Drake's drum roll when England is in danger? (Drake's drum is a poem in Canadian Reader—Book 5.)
4. Who was the first man to prove without doubt that the world is round? (Magellan)
5. A famous English "sea-dog" who attacked Spanish treasure ships and looted Spanish colonies was knighted on the deck of his ship, the Golden Hind, by one of England's most famous queens. Who was he? (Sir Francis Drake)
6. How did Magellan's trip make Spain a great trading and exploring nation?
7. (a) Where did Spain begin a great new empire?
   (b) What wealth did she find that England wanted?

## SECTION B

**Theme for Finding America:**

To understand the story of the finding of America, pupils should know some of the beliefs and interests which motivated the age of discovery. They should realize some of the reasons for Europe's interest in the Far East, why men were endeavoring to find an all-water route to the Indies, and why Columbus' theory that the earth was a sphere seemed so inconceivable to most of the people of his time.

From a study of some of the Spanish, English, French, and Dutch explorers who followed Columbus, the pupils should learn why certain countries of Europe laid claim to large sections of the New World and how these claims sometimes conflicted. This sets the stage for a consideration of settlements in the Western Hemisphere.

Less able groups probably should confine their study to those discoverers and explorers who had most to do with their own country, but the curiosity of able pupils may lead them to a study of explorations in other parts of the New World.

**Note:**—Some effort should be made to develop a comparable understanding of time as it applies to the discovery of the New World. Use maps, charts, and illustrations to give the concept of distance.

## PROBLEM IV—(a) To The Eastern Shores of North America

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Geo. | Teach and discuss—<br>1. Location of European countries (west coast).<br>2. Mileage across ocean.<br>3. Ideas of land mass at that time.<br>4. East coast of North America. | After globe and map study, mark on maps, continents, and oceans. | D |
| Soc. St. | A. **The Vikings**<br>1. Viking Period<br>2. Countries from which they came<br>3. Present day settlements in North America and Alberta.<br>Committee | Film, "The Vikings".<br><br><br><br>Information pool:<br>1. Voyages of Lief Ericson<br>2. Viking ships<br>3. Dress<br>4. Burial customs | D, A.<br><br>Map 9<br><br>Map 3<br>Pict. 13 |
| Lang.<br>Art<br>Music | Reports<br>Group or individual.<br>Records such as "Norwegian Mountain March". | Customs and ships<br>Draw ships and warriors. | <br>Pict. 13<br><br>See Song Suggestions at end of unit. |
| Health | Discuss relation of climate to peoples' energy. | | |
| Soc. St. | B. **Columbus**<br>Teach and discuss desire to find new lands.<br>Committee—reports | <br><br>Beliefs of people.<br>Columbus' theory that the earth was round. His voyages. | <br>Map 2<br><br>Pict. 21 |
| Science | Committee | Compass, astrolabe, telescope—ships of 1492 (compare with modern). | Pict. 8<br>Pict. 20 |
| Read.<br>Audio-Visual<br>Lang. | Poem "The Gates of Hercules".<br>Films | <br>"Discovery and Exploration"<br>"Spanish Explorers"<br>Original play "Columbus"—The Instructor, October 1952. | <br>See list at end of unit. |
| Soc. St. | C. **Americus Vespucius**<br>Teach and discuss origin of name "America". | | Map 3 & 14. |
| Soc. St.<br>Geo. | D. **Cabot**<br>Teach and discuss:<br>1. Newfoundland—position and size.<br>2. Occupations of people.<br>3. From colony to province—1497 - 1949.<br>Committee | <br><br><br><br>Report on voyage of Cabot.<br>Locate Cabot Strait, Cabot Trail. | <br><br><br>Map 11<br><br>A |
| Lang. | Play | "Westward Ho"<br>Highroads to Reading V. | |
| Health | Committee | Report on scurvy. | N |
| Soc. St. | E. **Jacques Cartier**<br>Teach and discuss:<br>1. Purpose of his trip in 1534 to find the Northwest Passage to China. | | A |

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| | 2. Optimism caused him to claim the Gaspe coast for France and return to report success. | | |
| Read. | | "Jacques Cartier"— Gay Adventurers Book V | Map 2 |
| Geo. | Report | 1. Present citizens of Gaspe — Occupations<br>2. Gaspe as a tourist attraction.<br>Wide Open Windows Book VI. | |
| Geo. | F. **Champlain**<br>Teach and discuss:<br>1. Coastline of Nova Scotia, New Brunswick.<br>2. Bay of Fundy fishing, transportation. | | F |
| Audio-Visual | Films | Maritime Provinces—Bay of Fundy — Champlain. | See list. |
| Soc. St. | Committee—Reports | 1. First settlement on island in St. Croix River in 1604.<br>2. Settlement at Port Royal.<br>3. Reason for abandoning the settlement.<br>4. St. Croix as boundary between New Brunswick and Maine. | O |
| Lang. | Discuss social life of colony aided by the "Order of Good Cheer". | Present a program on Champlain using the title "The Order of Good Cheer" | L |
| Health<br>Art | Emphasize deaths caused by scurvy.<br>Group or individual. | Draw or model fort at Port Royal. | |
| Soc. St. | G. **Henry Hudson**<br>1. Discuss continued belief that there was a short route to the East, and each country wanted to be the first to find it.<br>2. Holland hired Hudson in 1609 to find it. | | |
| | Committee—Report | 1. First voyage to Hudson River.<br>2. Hudson River, today—length, cities on its banks; evidences of Dutch colonization.<br>3. Voyage for England in 1610 to Hudson Bay.<br>4. Seaports (Churchill); Hudson Bay route to Europe. | A.<br>Map 10 |
| Health<br>Read. | Research<br>Selections from "Rip Van Winkle". | Treatment for frost-bite. | O |
| Lang. | Dramatization | "Henry Hudson"—North Star Reader—Grade V.<br>Pupil-prepared quiz for review of this unit. Pupils make up actions and quotations of explorers; class guesses who is represented. | |
| Art | Group or Individual | 1. Hudson sailing on Hudson River, Katskill Mts. in background.<br>2. Cast adrift in Hudson Bay. | |
| (b) **To The Western Shores of North America** | | | |
| Soc. St. | A. **Captain James Cook** | | |
| | Develop theme of Cook as one of greatest navigators of all time. Summarize explorations previous to 1778. | | Map 15<br>A |

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| | Committee—Report | Voyage to West Coast in 1778, (to look for North-West Passage from Pacific side).<br>1. Arrival at Nootka Sound.<br>2. Indians' desire for iron.<br>3. Discovery of value of sea-otter skins.<br>4. Voyage to Bering Strait; no practical sea route via North-West Passage.<br>5. Tragic death. | |
| Geo. | Committee—Report | Vancouver Island—size and coast-line. | |
| Science | Discuss "taking the soundings".<br>Committee—Report | Soundings at Nootka.<br>Sea Otter | |
| Health | Discuss Cook's realization that fresh fruits, and vegetables are necessary for health. Methods he used to overcome scurvy. | | |
| Soc. St. | B. **Captain George Vancouver**<br>Preparation: teach Spanish possessions of 1790; Don Quadra and Vancouver sent to Nootka to clarify question of ownership.<br>Committee—Report | Boyhood of Vancouver,<br>Travels with Cook;<br>Squamish Indians. | **F** |
| Lang. | Play | "The Meeting of Captain Vancouver and Don Quadra at Nootka Sound." | |
| Geo. | 1. Charting the West coast.<br>2. Discovery that Vancouver Island is not part of mainland. | Locate Vancouver, Nootka Sound, Strait of Juan de Fuca, Burrard Inlet, the Narrows, Point Grey, etc. | Map 15 |
| Health | Vancouver's earlier failure in health due to tuberculosis.<br>Committee—Report | Tuberculosis—causes, seriousness, present knowledge and cure. | |

**TEST ON PROBLEM IV**

1. For what country did Columbus claim all the land that he discovered? (Spain)
2. Where did Cartier erect the large wooden cross, claiming the land for France? (Gaspé coast)
3. What man discovered what was later known as the oldest British colony? (John Cabot)
4. For which two countries did Henry Hudson explore? (Holland and England)
5. Why was Captain James Cook sent to the West Coast in 1778? (to find the North-West Passage.)
6. How many "firsts" was Captain James Cook famous for? e.g. He was the first man to discover Australia.
7. In a paragraph explain why Champlain, rather than Jacques Cartier, is called "Father of New France".

## PROBLEM V — Discovering the Polar Areas

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| (a) **The Arctic** | | | |
| Geo. | Teach and Discuss:<br>1. Positions of Northern Islands of Canada.<br>2. Trace possible North-West Passage routes.<br>3. Locate Magnetic North Pole.<br>4. Different type of projection needed for Polar Maps.<br><br>(Note that the greatest distortion in a Zenithal map is at the outer edges. The closer you go to the centre the more accurate it becomes. The Mercator on the other hand becomes distorted to the greatest extent at the North and South Poles and is most accurate in the middle latitudes.) | Make large Zenithal map of Arctic Area. Add each explorer's route and base of operations. | Map 17<br><br>See Material P. 18 |
| Soc. St. | Voyages of Franklin, Peary, Amundsen. | | Map 16 |
| Audio-Visual | North Pole, the Arctic | | Map 17 |
| Lang. | Reports | | |
| Health | Scurvy, frost-bite, caloric value of various foods. Meaning of calories. Value of Pemmican. | Study use of Vitamin C and sources. Make lists of foods suitable for Arctic travel. | |
| (b) **The Antarctic** | | | |
| Geo. | Locate:<br>1. Palmer Peninsula<br>2. Ross Shelf<br>3. Beardmore and Scott Glaciers<br>4. Amundsen's Camp<br>5. Little America<br>6. South Magnetic Pole. | Develop large Zenithal map of area. | Map 18 |
| Soc. St. | Shackelton, Scott, Amundsen, Byrd | Reports | |
| Lang. | Meaning of such words as isthmus, plateau, peninsula, equator, gulf | | |
| Science | Weather, temperature, insulation | Visit a weather station, examine maximum and minimum thermometers, anemoneter, etc. | |

## PROBLEM VI — How Deep in the Ocean — How High in the Air?

| | | | |
|---|---|---|---|
| Soc. St. | Teach and Discussion<br>Reports | William Beebe<br>Otis Barton<br>Machines for underwater exploration diving tube, diving bell, underwater tractor, diving suits, bathysphere, submarine. Dangers involved in diving—nitrogen in the blood (compared to pop "fizzing" when opened). Show ascent to prevent "bends" | Pict. 22, 23, 24 |
| Science | Teach—Discuss | Underwater plant and animal life. (Certain forms of marine animals must stay below a certain depth—adaptations to pressure of water. | |
| Science | Committee | Make a model of a diving-bell. Have someone bring their "Frog man" outfit to school. | Pict. 22, 23, 24 |

| Subject Area | Possible Procedure | Possible Activities | Ref. |
|---|---|---|---|
| Soc. St. | A Visitor | Invite ex-sailor to tell experiences. | |
| Science Health or Science | Teach and Discuss | Animal life requires oxygen but plant life takes in carbon-dioxide and gives off oxygen. The ocean is a balanced acquarium. | |
| Science | Committee | Start an acquarium in your class. Simple materials are readily available. | |
| Lang. | Committee | Have reports given on unusual species of marine life such as the sea horse, squids, ray fish and flying fish. Word lists. | |
| Lit. | Read aloud | Jules Verne—"Twenty Thousand Leagues Under the Sea". | |
| Art | Committee | Draw species of marine life. Draw imaginary pictures of "Atlantis" people, animals. | |
| **Sub-section (How High In The Air?)** | | | |
| Soc. St. | Teach—Discuss | Man's desire to fly like the birds. (Ancient legends —Daedalus and Icarus and the wax wings.) | |
| Science | Discussion | Principles of gravity. Montgolfier's balloon 1783 — Jean Rogier — first man to ascend in a balloon. | Pict. 26 |
| Science | To be taught in connection with Montgolfier's experiments. Introduce the section with a few experiments. | Warm air uses. (Drop bits of paper over a hot air register.) Use other experiments. Bring in the idea of wind caused by air temperatures. Air is rare higher up. As we ascend, temperature drops to 50 to 60° F. Special equipment needed for great ascents to contend with lack of oxygen and increased cold. Instruments sent up by the weather office to record the wind velocity, temperature, etc. | Pict. 32, 33, 34 |
| Soc. St. | Teach—Discuss | Lilienthal's gliders (Beginning of flight.) Wright brothers. Bleriots' flight across the English Channel. Lindbergh's Atlantic flight in 1927 (Spirit of St. Louis). | |
| | Committee | Collect pictures of the various early aircrafts. | |
| Science | Draw & Label | Essential parts of a plane. | Pict. 31 |
| Soc. St. | Teach—Discuss | Piccard's stratosphere ascent (1931). Captains Stevens' and Anderson's ascent to 74,000 ft. Balloons carrying instruments have ascended 25 miles. | Pict. 27 |
| Science | | Types of airships—blimps, balloons, dirigibles, zeppelins. World War II ushered in the V-Z rockets, guided missiles, and jet aircraft. | Pict. 28 29 |
| Lang. | Committee | Plan a trip to the moon. Describe your space machine, instruments, clothing and oxygen supply. | |
| Soc. St. & Science | Field Trip | Plan a class visit to the local airport and weather station. | |
| Science | Teach | Why does the sky look blue? (Ultra-violet light rays from the sun change the layer of oxygen in the upper stratosphere to ozone which has a blue-light characteristic. Atmosphere divided into troposphere, stratosphere and ionosphere. | Pict. 30 |
| Spelling | Sp. Match | Use new words learned in this enterprise. | See listed vocabulary |

## TEST ON PROBLEM V & VI

1. What prevents man from making deep water descents unless he has special equipment? (Water pressure)
2. Which of the following devices are used for underwater exploration? Aeroplane, Bathysphere, Diving Bell, Dirigible, Underwater tractor, Diving tube.
3. Match the following:

| | | |
|---|---|---|
| 1. Montgolfier | (4) | 1. Terrible pains from surfacing too rapidly after water descents. |
| 2. The "bends" | (1) | 2. A species of marine animal |
| 3. William Beebe | (3) | 3. Descended in a diving bell |
| 4. Sea horse | (2) | 4. Built the first successful balloon |
| 5. Dirigible | (7) | 5. Flew the first aeroplane |
| 6. Spirit of St. Louis | (6) | 6. Lindbergh's Plane |
| 7. Wright brothers | (5) | 7. An airship |
| 8. Ionosphere | (8) | 8. Part of the atmosphere. |

4. About how far has man ascended into the atmosphere? (74,000 Ft.)
5. About how deep is the deepest part of the ocean? (5 miles)
6. What do you feel is most important about Arctic and Antarctic discoveries?

The following is a brief outline of some of the polar discoveries which have rounded out our world picture. They have taken place within this century and thus are of particular interest. Growing attention focuses on Canada's northern islands. Rival nations make claims to the Antarctic areas. As the problem of travel and survival in the extreme cold is a continuing one, it is interesting to note the experiments made by explorers in covering distances and in defeating the cold. Time will prove how valuable all their work has been to the peoples of the earth.

## CONQUERING THE NORTH-WEST PASSAGE

One of the world's greatest explorers was Roald Amundsen. From the time he first read of the work of Sir John Franklin he was anxious to explore the few remaining areas of the world unknown to man. Roald was eminently fitted for the job. He was the best skier in his village, he had read every available book on exploration and he had begun to learn navigation and seamanship at an early age.

Amundsen planned to begin exploring at the point where Franklin had failed; namely, to penetrate the Northwest Passage to China. He studied the conditions which made Franklin fail and planned how to overcome them.

His first experiences came when he was offered a job as first mate on a vessel travelling to the Antarctic to locate the position of the South Magnetic Pole. When the ship was frozen in the ice for thirteen months and scurvy broke out, Amundsen learned of the importance of fresh meat. He helped in the search for seals and penguins.

The position of the Magnetic Poles, Amundsen found, is of importance to navigators. The declination or variation between the position of the North Magnetic and the true North must be taken account of for correct reckoning of a ship's position. This declination varies, for various parts of the world. Thus it was that Amundsen decided to determine the position of the North Magnetic Pole as well as to penetrate Lancaster Sound on his Arctic trip.

He set off in his ship the "Gjoa", on June 16, 1905. He passed through Lancaster Sound and located the North Magnetic Pole on the northern part of the Boothia Peninsula. Then the ship entered Peel Sound. By September they reached King William's Island where there was a good natural harbour. Their compass had been of little value to them in this area, they found. Amundsen charted the shores of King William's Land and decided after checking closely that the Magnetic Pole constantly shifts around. The crew obtained fresh meat and Amundsen and his men dug in for a long northern winter. A band of Eskimos settled nearby giving the explorer an opportunity to study them and obtain samples of their handicraft work. So the winter passed.

Finally in August, 1910, the ship sailed through what is now known as the Dolphin and Union Strait. For three weeks they crept carefully through the shallow passage. Finally, when a whaler's vessel was sighted the excitement of the crew was enormous. They knew they were off the coast of Alaska. The North-West Passage from Europe to Asia could now be added to the map.

## THE SEARCH FOR THE POLES

Amundsen planned next to search for the North Pole but, while he was preparing, word came that Admiral Robert Peary, an American, had reached the Pole.

Peary had made previous expeditions north and knew how to live as the Eskimos do. He knew how to build igloos for living quarters and for storing food and fuel. He knew the value of dogs for Arctic travel.

He took seven white men, his friend Matt Henson, who was a negro, and fifty-nine Eskimos with him. Their equipment included one hundred forty dogs and twenty-eight sleds. Peary travelled north on "The Rooseveldt" a sturdily built ship with sides two feet thick. A camp was made at Cape Sheridan on Ellesmere Island and later another one on the northern tip, at Cape Columbia. From this point it was four hundred miles to the Pole.

The party set off in the early spring and the weather turned unusually cold. When they were one hundred thirty-two miles from their objective Peary chose Matt Henson and four Eskimos to accompany him for a final dash to the Pole. On the 6th of April 1909 Robert Peary set up the Stars and Stripes of America over the North Pole. It is interesting to note that a negro accompanied the explorer and was one of the first men to see the spot. They took soundings and found that there is no land at the North Pole but merely an ice cap over quite a deep ocean. It took fifty-three days in all to get from Cape Columbia to the pole and back.

In 1926 two other Americans, Richard Byrd and Floyd Bennett flew over the North Pole in an aeroplane built for Arctic travel.

## THE RACE SOUTH

Now began the race to reach the South Pole. Captain Cook had predicted that a great continent lay to the south of Australia and had crossed the Arctic circle in search for it. His vessel was not equipped for the Polar seas and a great ice barrier shut off any approach to the land from the ocean, he found.

In August 1910 Amundsen prepared to leave for the South. He planned to chart the Magnetic South Pole's movement. He wanted to study winds and weather as well as search for the Pole itself, for scientists even then felt that the weather in Antarctica affected that of much of the rest of the world.

The ship reached the Bay of Whales in Antarctica in the early spring of 1911. A camp called Framheim was established for the winter. The explorers found that a great shelf of ice extended far out into the bay and that a towering range of mountains shut off the interior. Great glaciers push down the shore side of the mountains. One called the Beardmore Glacier is one hundred miles long and over twelve miles wide. In this land of ice and snow glaciers fill the valleys and shove out at the rate of about 500 feet a year on to the ice shelf. The outer edges of the shelf break up into skyscraper-sized iceburgs.

Antarctica proved to be larger than the area of the United States. The continent, they found, was the highest in the world. The interior is a vast plateau 9,000 - 11,000 feet higher than sea level in places. To get to the plateau the only method of travel is up the glaciers. The Beardmore Glacier was the avenue of approach for many of the exploring parties.

To prevent possibility of failure the trip to the Pole was postponed until camps had been made along the way and food and fuel stored there. In October, Antarctica's spring time, the men set off. The food depots were easy to find and progress was steady though occasional blizzards and crevasses in the ice cap caused a slow down at times. Amundsen insisted on each man wearing six pairs of socks. As a result of this and other similar precautions no one suffered from exposure.

On December 14, 1911, Amundsen came in sight of the Pole. He wondered if the explorer Scott had beaten him. But no, he was the first. A beautiful Norwegian flag was set up at the South Pole.

In the meantime Robert Falcon Scott in the Terra Nova had set off from England in June, 1910. He went first to New Zealand and from there on to Antarctica.

When he arrived at the ice barrier he found that the Norwegian group was already established about four hundred miles along the shore from their camp. Scott also set up food depots along the way to the Pole. In October the party set off. They climbed the great Beardmore Glacier. They had brought ponies to be used to carry loads up the glaciers. However blizzards and unusually cold weather forced them to shoot the ponies before they reached the top.

When finally they were on the plateau, Scott selected four men to make the dash for the Pole with him. The rest of the party and the dogs returned to the base camp. There were one hundred and forty-five miles for Scott and the four others to go. Bad luck haunted them. Blizzards and

unusually cold weather slowed them to about ten miles per day. They found the sleds very heavy to pull without the help of dogs.

On January 17, 1912, Scott reached the pole. He had seen a black speck from some distance and when they arrived it turned out to be the Norwegian flag that Amundsen had planted there a few weeks previously. The men were terribly disappointed. However, they added the record of their attempt, placing it in a cairn of snow, and put up a British flag.

They were short of both fuel and food for the return journey. Going down the Beardmore Glacier, Evans, one of the strong men of the party, fell and injured his head. They set up camp to care for him and he died while they camped there. By this time the men hadn't enough fuel to have a hot meal once a day. Captain Oates next fell ill. He went off out into the storm to die so that he wouldn't be an encumbrance to the party.

Blizzards stopped them again within eleven miles of one-ton depot where food and fuel was stored. The men set up their tent and crawled in until the blizzard would pass. Four days later Scott wrote the last paragraph in his diary. He said:

"I do not regret this journey which has shown that Englishmen can endure hardship, help one another, and meet death with great bravery as ever in the past. Had we lived I should have had a tale to tell of the hardihood, endurance and courage of my companions which would have stirred the heart of every Englishman. We shall stick it out to the end, but we are getting weaker, of course, and the end cannot be far - - - -"

Eight months later a search party found them. The tent was almost covered with snow. The searchers built a cairn and placed a wooden cross of broken skis over their resting place. On the cross their names were written and the words:

"To strive, to seek, to find, and not to yield."

## OTHER ANTARCTIC EXPLORERS

There are other explorers whose names should not be omitted in Antarctic discovery. There is the great Shackleton who in 1909 travelled to a point just ninety-seven miles from the Pole and had to turn back.

There is also Admiral Richard Byrd who visited Antarctica to chart unknown areas, obtain data about the weather, and decide if Antarctica was one great continent or if a waterway divided it. In 1925 he entered the Bay of Whales and on the Ross Shelf established a camp so large that it was almost a small city. He called it "Little America". Trips were arranged for the exploring parties. Byrd planned to fly over the Pole in a plane. On November 29, 1929 a flag of the United States was dropped down to the South Pole as his plane roared over it.

In 1933 Byrd headed south again. Little America awaited him. This time he spent four and one half months at a camp one hundred twenty miles from the base camp, checking wind and weather. He recorded a temperature of 83 degrees below zero. The highest temperature he recorded was 15 degrees above zero.

Before returning home a trip was made to investigate the possibility of the continent being divided by a great water passage. In spite of the heavy covering of snow the experts with Byrd decided against the possibility of any waterway.

Interest in the great continent is very keen. The area is a frozen waste but the sea round about teams with fish, seals and whales. The whaling industry has brought over two million dollars to Britain alone, as a result of a season's catch. Interest too in the possibility of uranium deposits and oil pools deep below the surface keeps attention centred there. Fossils and coal indicate that at one time Antarctica had a sufficiently warm climate to support abundant vegetation. What wealth in minerals, coal, and oil, is beneath its frozen crust has yet to be determined.

Palmer Peninsula - Hope Bay. The dog team is used for setting up food depots for surveying parties going into unknown areas.

Penguins coming ashore along the fast ice edge of Hope Bay, Palmer Peninsula.

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B. Cordier & Robert, **History For The Beginner**
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D. Janeway, **The Vikings**
E. *Coulamb, Dowling, Rapp, **Beginnings In The Old World**
F. Duvoisin, **And There Was America**
G. **Man Conquers the World With Science**
H. Webster, **Travel by Air, Land, and Sea**
I. Backman, **Great Inventors and Their Inventions**
J. *Boog - Watson, **Beyond The Sunset**
K. McGuire, **A Brave Young Land**
L. Hamilton, **Pirates & Pathfinders**
M. Hartman, **The World We Live In & How It Came To Be**
N. *Dickie, **How Canada Was Found**
O. Taylor, **Canada & Her Neighbors**


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2. **Map Makers**—Cottler and Jaffee—Ryerson — $1.10
3. Tanser—**Westward to the Americas**—Longman's — $2.60
4. Cameron Innes—**Living in Canada**—Clarke Irwin — $2.25
5. **Changing Canada** (Fish, Furs, and Exploration)—Clarke, Irwin and Company, 1951
6. **Finding New Homes in Canada**—Guillet and McEvan—Nelson and Sons
7. **The Old World Past and Present**—Campbell, Webb, and Nida

### AUDIO-VISUAL AIDS:

#### Filmstrips

(Order strips by number from: Audio-Visual Aids Branch, Department of Education, Edmonton, Alberta.)

| | | | |
|---|---|---|---|
| XP-461 | The Age of Discovery | XP-466 | The English Sea Dogs |
| XP-462 | The Story of the Vikings | XP-467 | Founders of New France |
| XP-463 | How Columbus Discovered America | XP-468 | History Review |
| XP-464 | Cortez Conquers Mexico | XP-469 | Exploration and Discovery |
| XP-465 | Golden Age of Spanish Discovery | P-1986 | The Arctic |

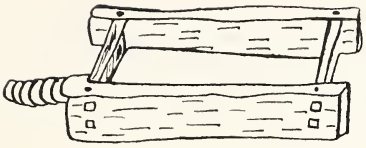
#### Films

| (Order films as above for filmstrips) | | Running time |
|---|---|---|
| Q-207 | Champlain | 8 Minutes |
| Q-94 | Cortez and Montezuma | 15 Minutes |
| Tk-580 | Story of Christopher Columbus | 21 Minutes |
| T-744 | Age of Discovery (Spanish and Portuguese Exploration) | 11 Minutes |
| T-1096 | North Pole | 10 Minutes |

#### Song Suggestions:

The Song Book, "Songs of Discovery and Exploration" by J. M. Dunsmore.
The following are all from Canadian Singer, Books III, IV, V, and VI:

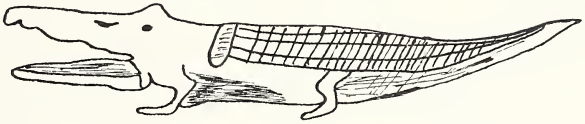
| | | |
|---|---|---|
| Christopher Columbus | — | Book III, Page 27 |
| The Canadian Way | — | Book IV, Page 8 |
| Our Country | — | Book V, Page 7 |
| The Texas Trail | — | Book V, Page 8 |



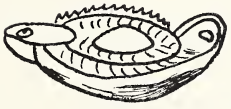
1

Egyptian Mould for Brick-Making

2

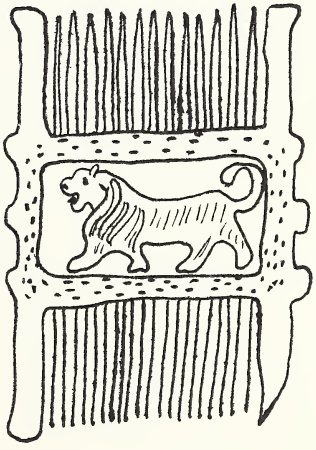


Egyptian Toy Crocodile with Movable Jaw



5

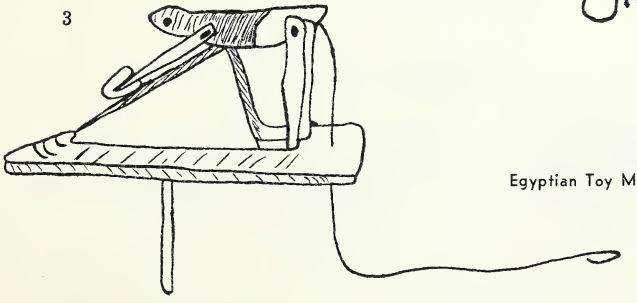
A Greek Oil Lamp



Phoenician Ivory Comb

4

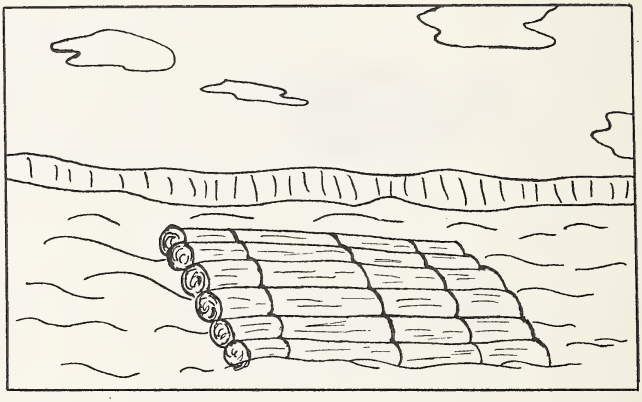
3



Egyptian Toy Miller

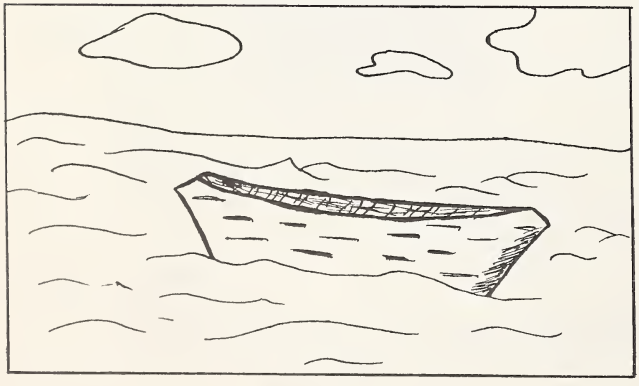
6

Man's First Boat—A Log



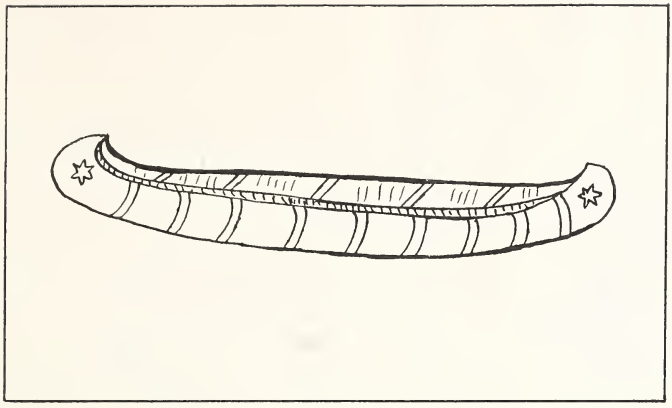
7

Several Logs Tied Together with Hides or Vines—Hence, A Raft

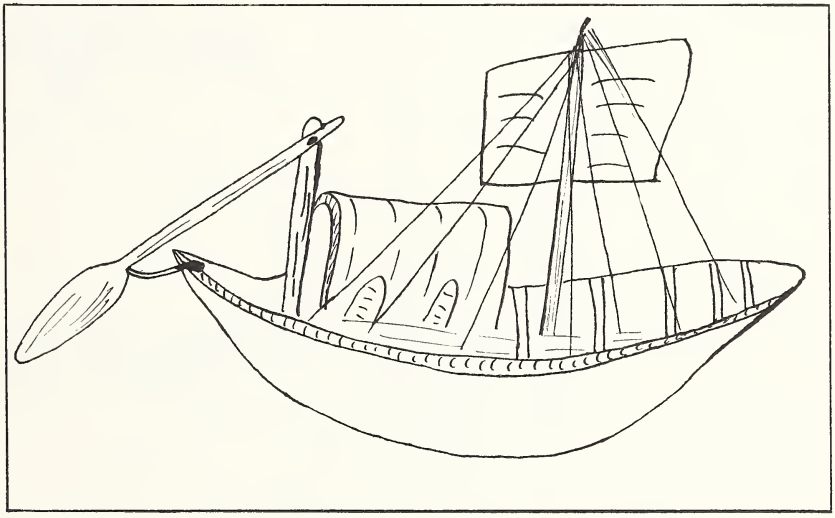


8

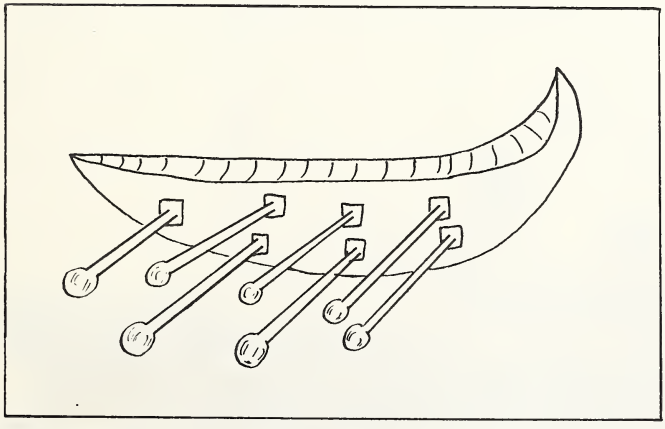
Next a Large Log was Dug Out with Sharp Stones— Easier to Handle



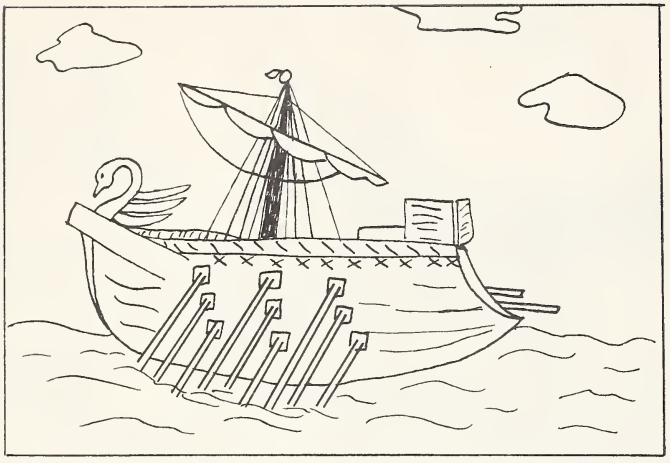
9 The First Canoe was Made from a Light Wooden Frame Tied Together with Strips of Hide. The Frame was Covered with the Skin of Animals or the Bark of Trees. Eg. Could be Maneuvered and Portaged Easily.



10 An Egyptian Nile River Boat—A Square Sail or Paddles were used. Note Small Cabin Steering Oar on Stern.

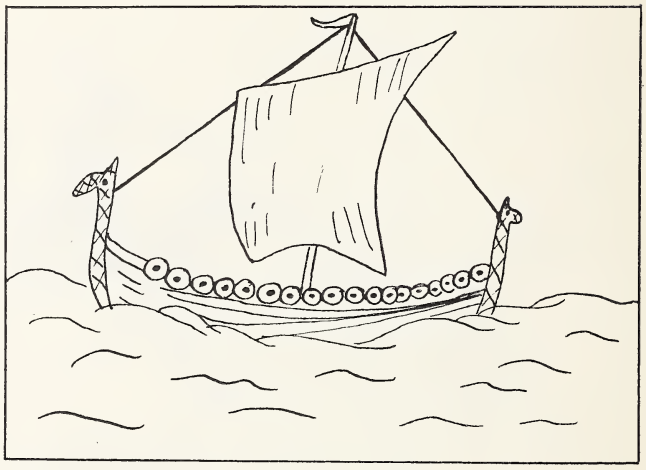


11 The Phoenicians got more power by using two rows of oarsmen. This was called a bireme.



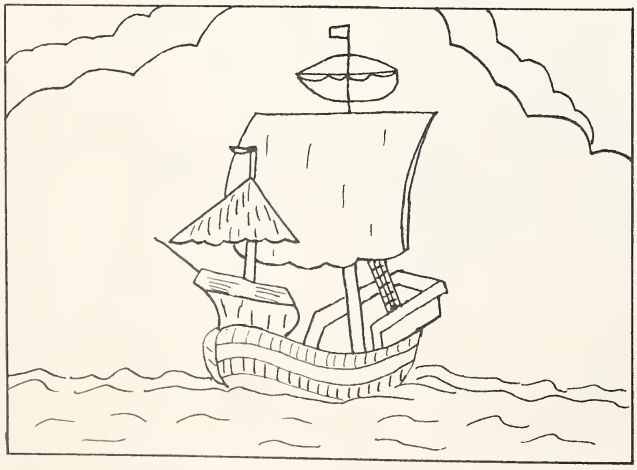
12

Then the Greeks and Romans built the trireme with three banks of oars.



13

A Viking Dragon Ship—Built to resemble a sea monster.

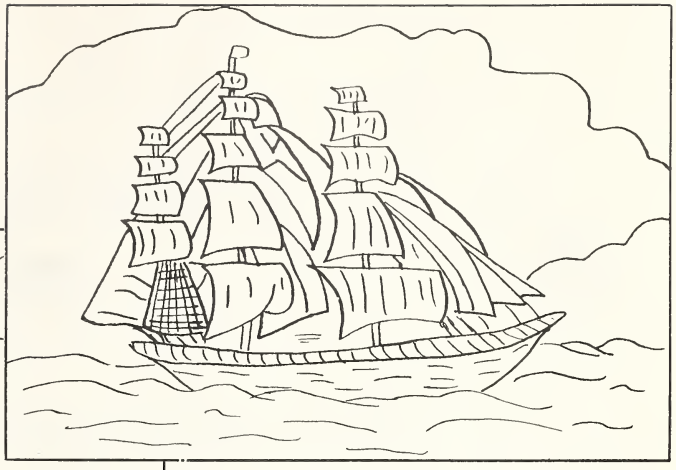


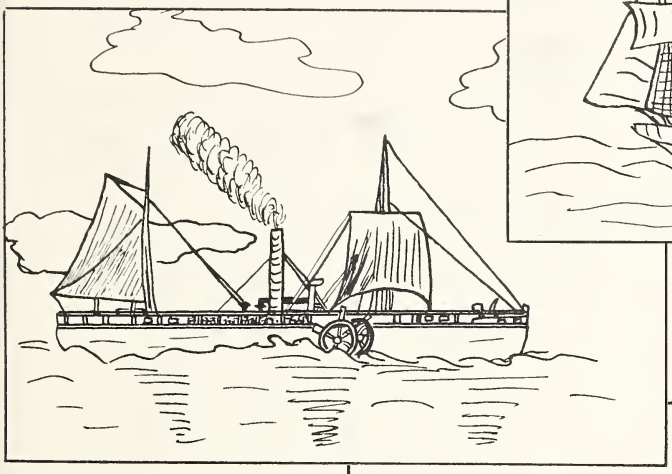
14

A Carrack—A typical ship of the Middle Ages.

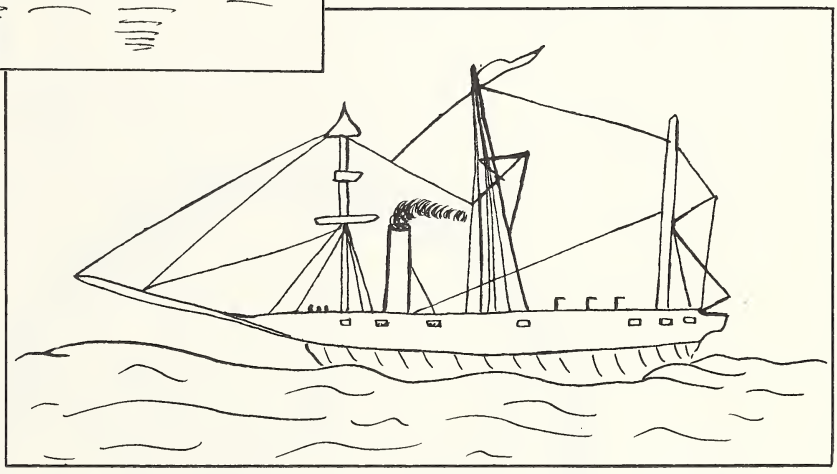
15

The Flying Cloud—A Clipper Ship. Among the fastest and most famous of the sailing vessels.



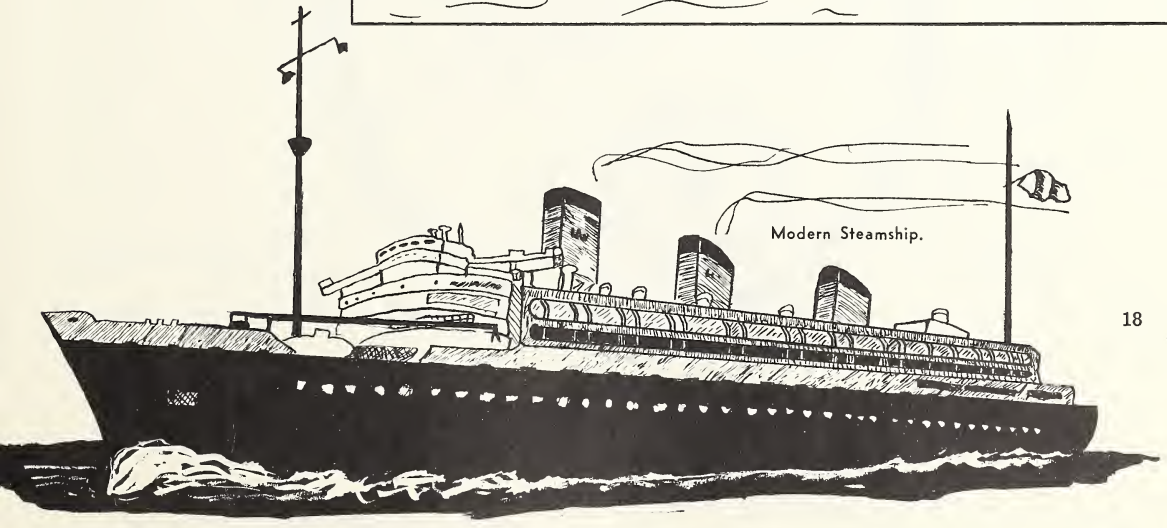


16. Fulton's Clermont—1807.



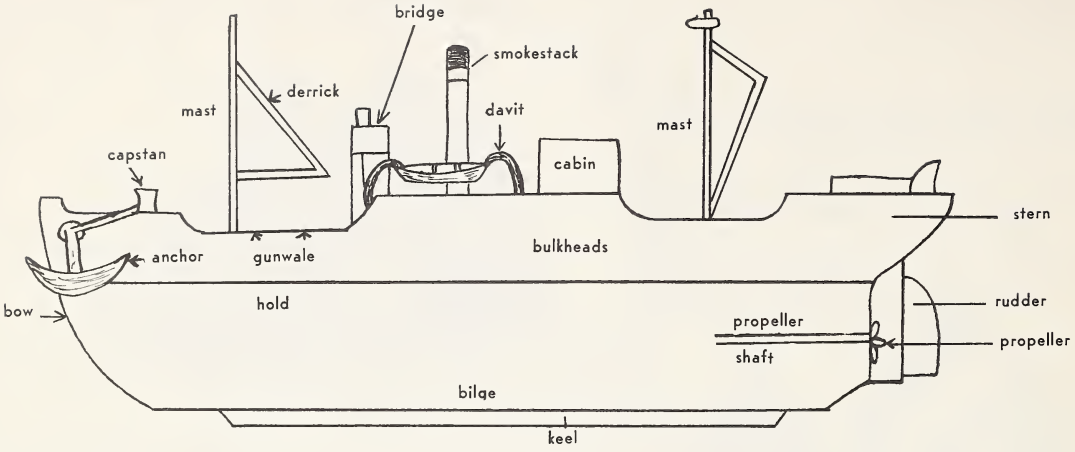
17

Then came the steamship with the screw propeller.



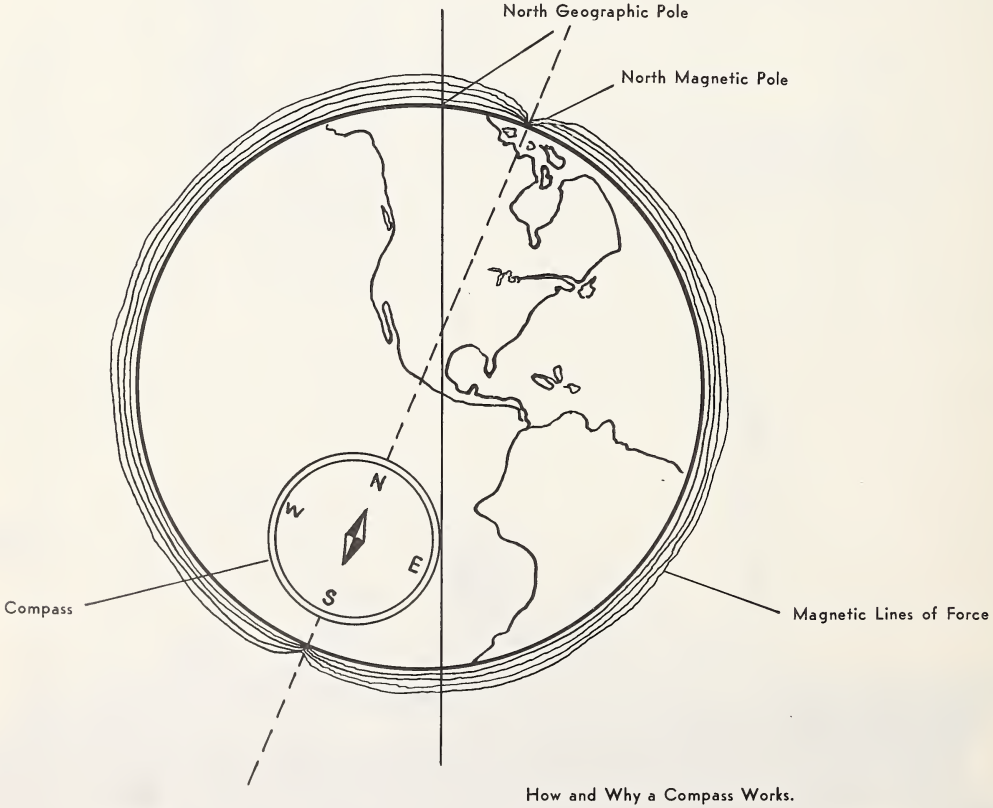
Modern Steamship.

18




19

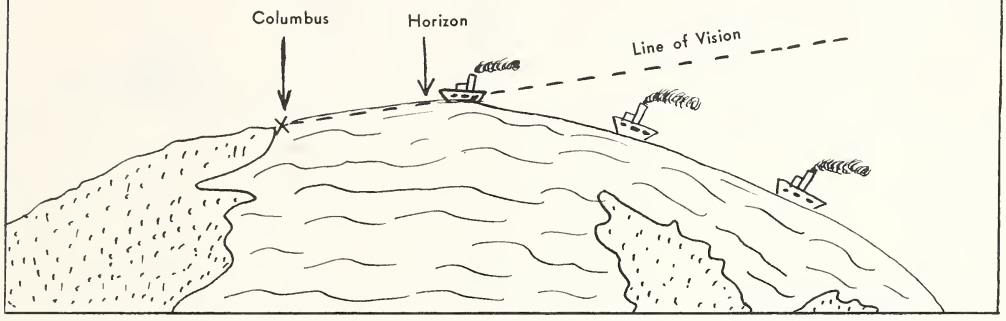
Parts of a ship.




20

How and Why a Compass Works.

Illustrating Columbus' Theory that the earth is round. Eg. The eye cannot see around the curve. Past the horizon we look above the earth.

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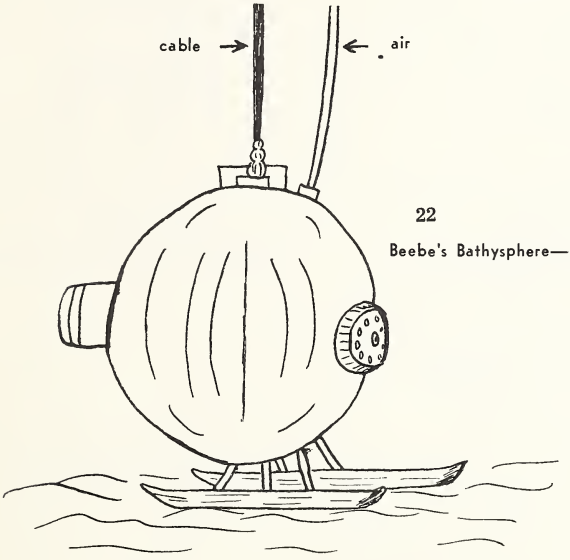
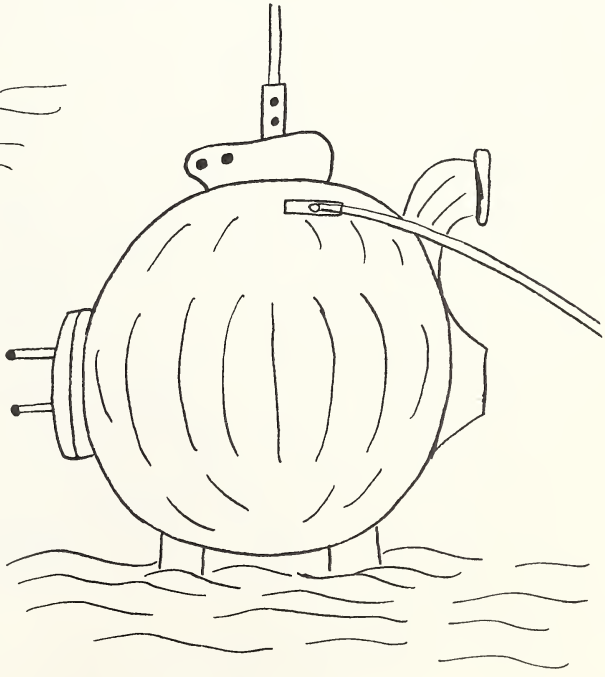


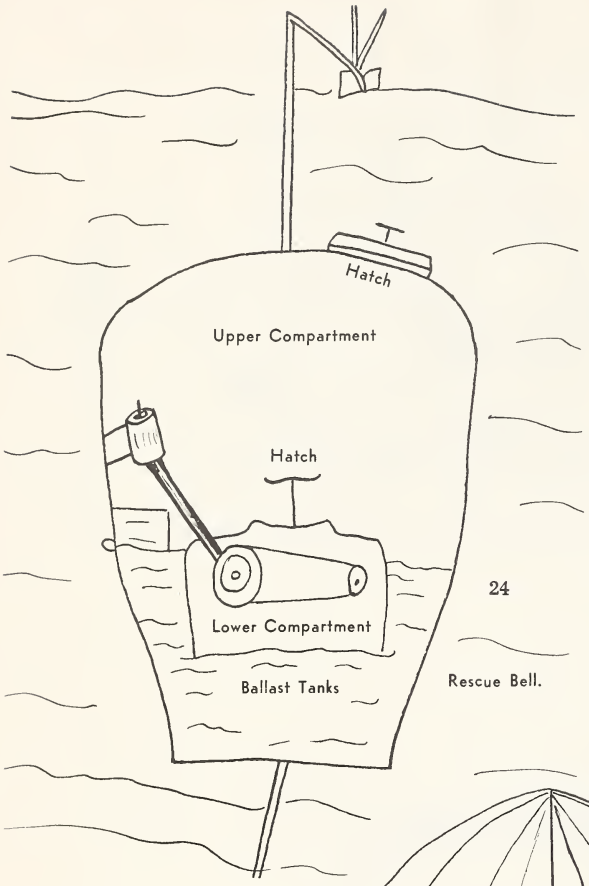

22

Beebe's Bathysphere—Diving Record: 3,C28 feet.



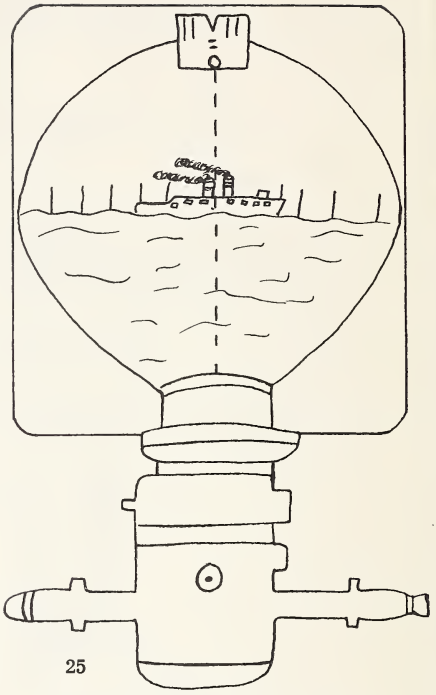
23

Barton's Benthoscope—7,000 lbs. cast steel; two windows —3-inch fused quartz;
two outside lights. Diving Record: 4,500 feet.



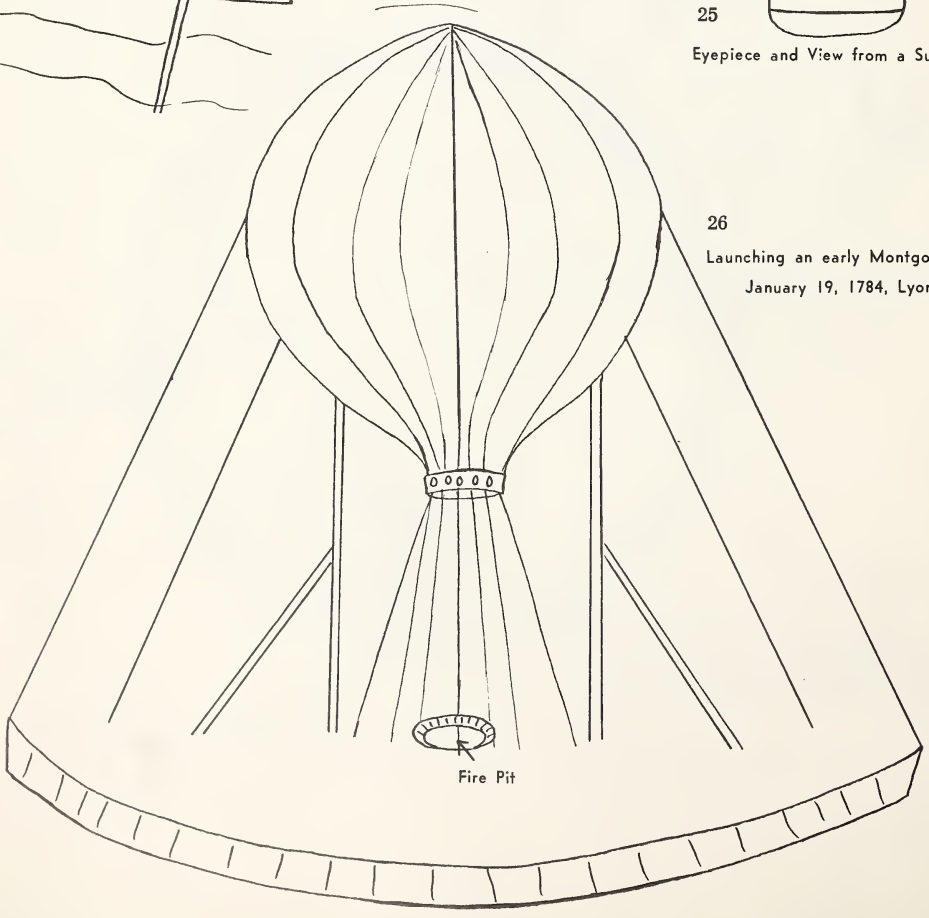

24

Rescue Bell.



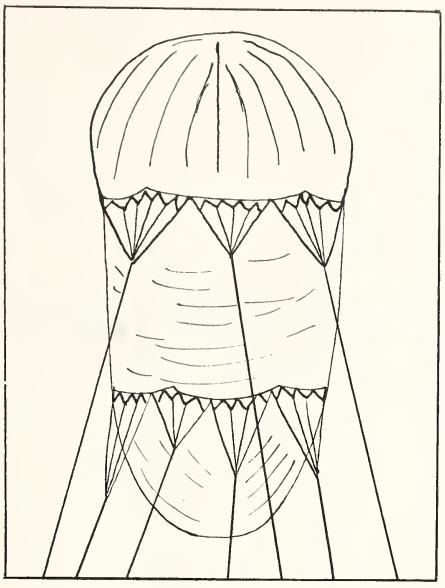
25

Eyepiece and View from a Submarine.



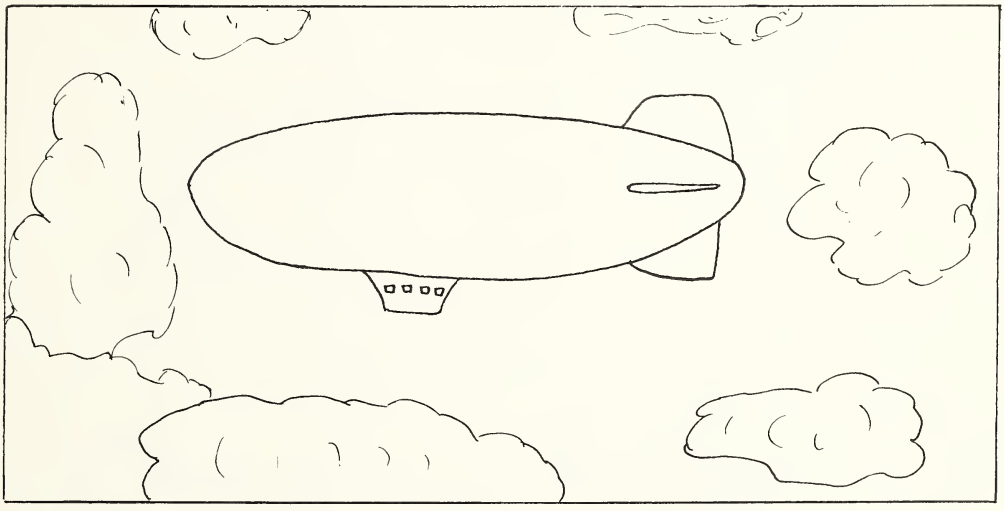

26

Launching an early Montgolfier Fire Balloon.
January 19, 1784, Lyons, France.



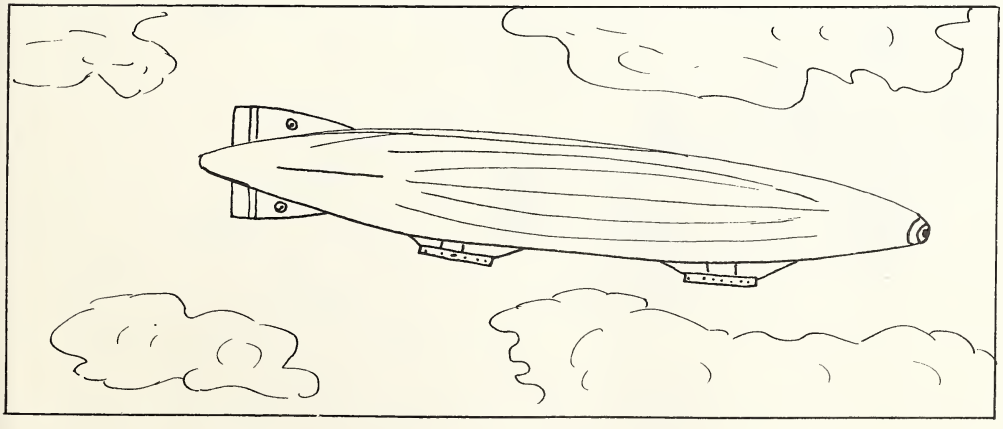
27

Balloon Used by Prof. Piccard.



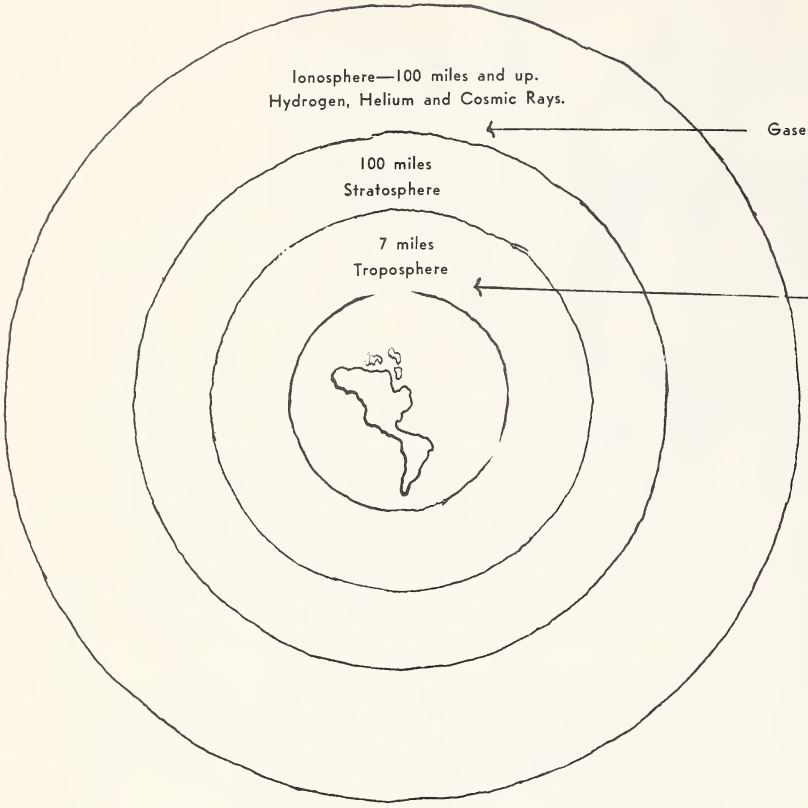
28

A Blimp.



29

A Dirigible.

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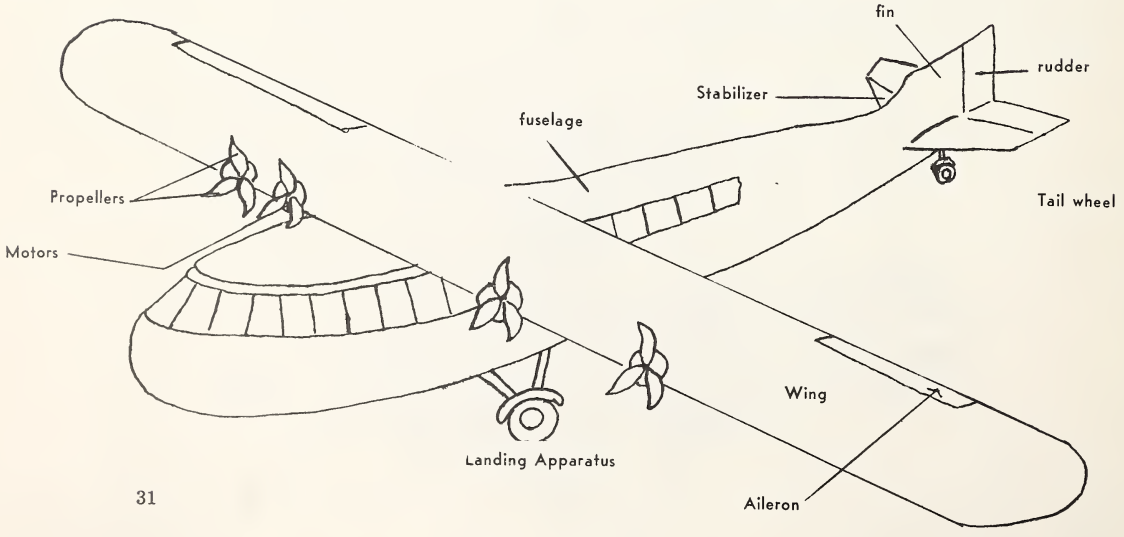
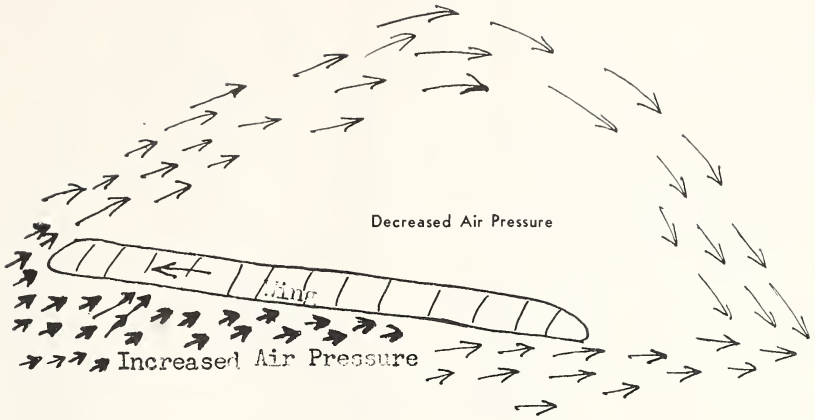


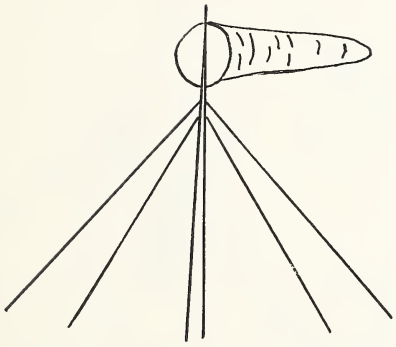

31

Parts of an Aeroplane

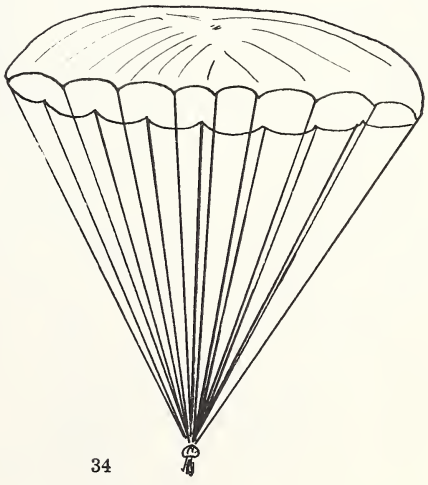



32

Lifting Effects of Air Pressure

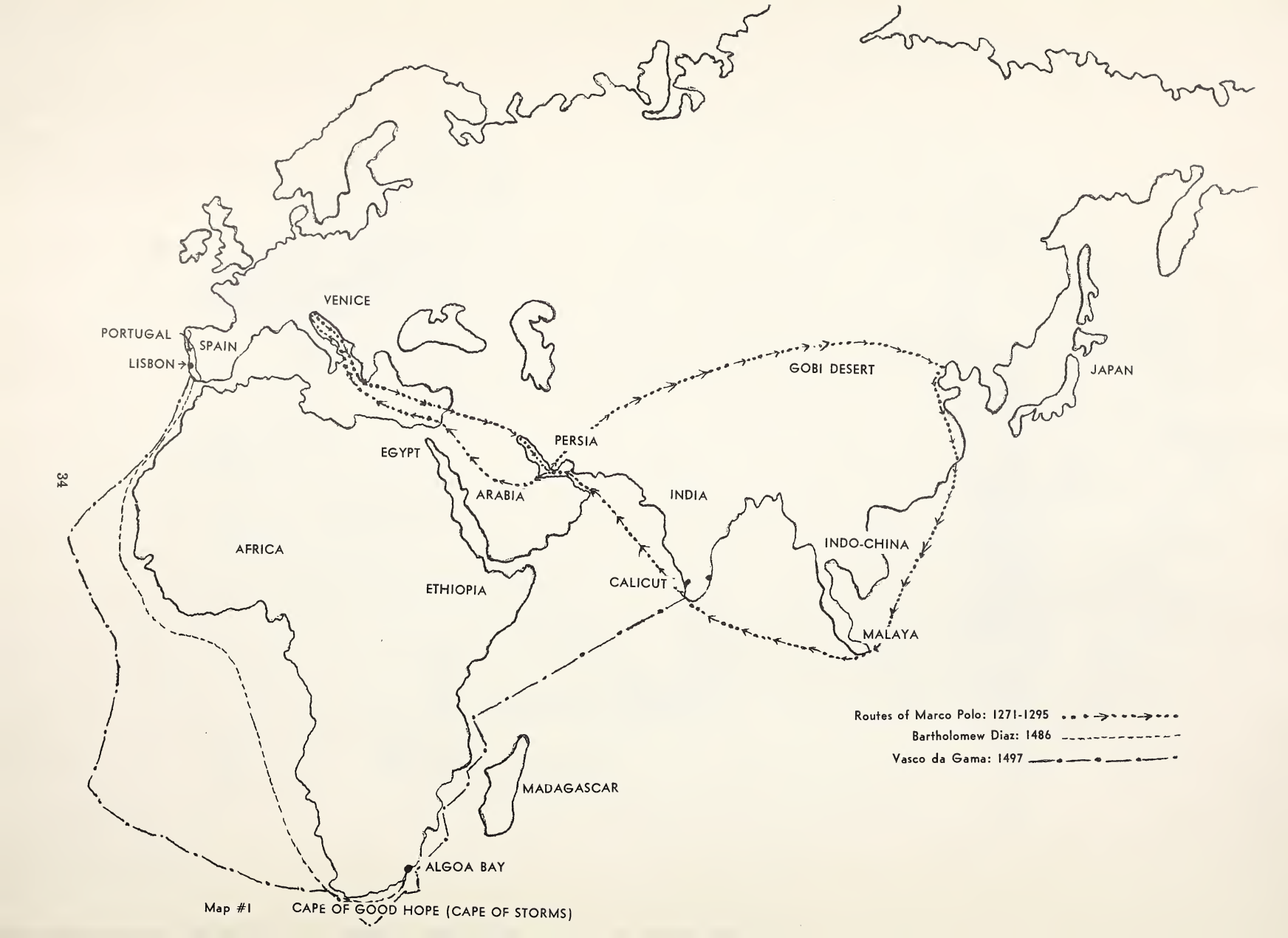


33 A Wind Sock.

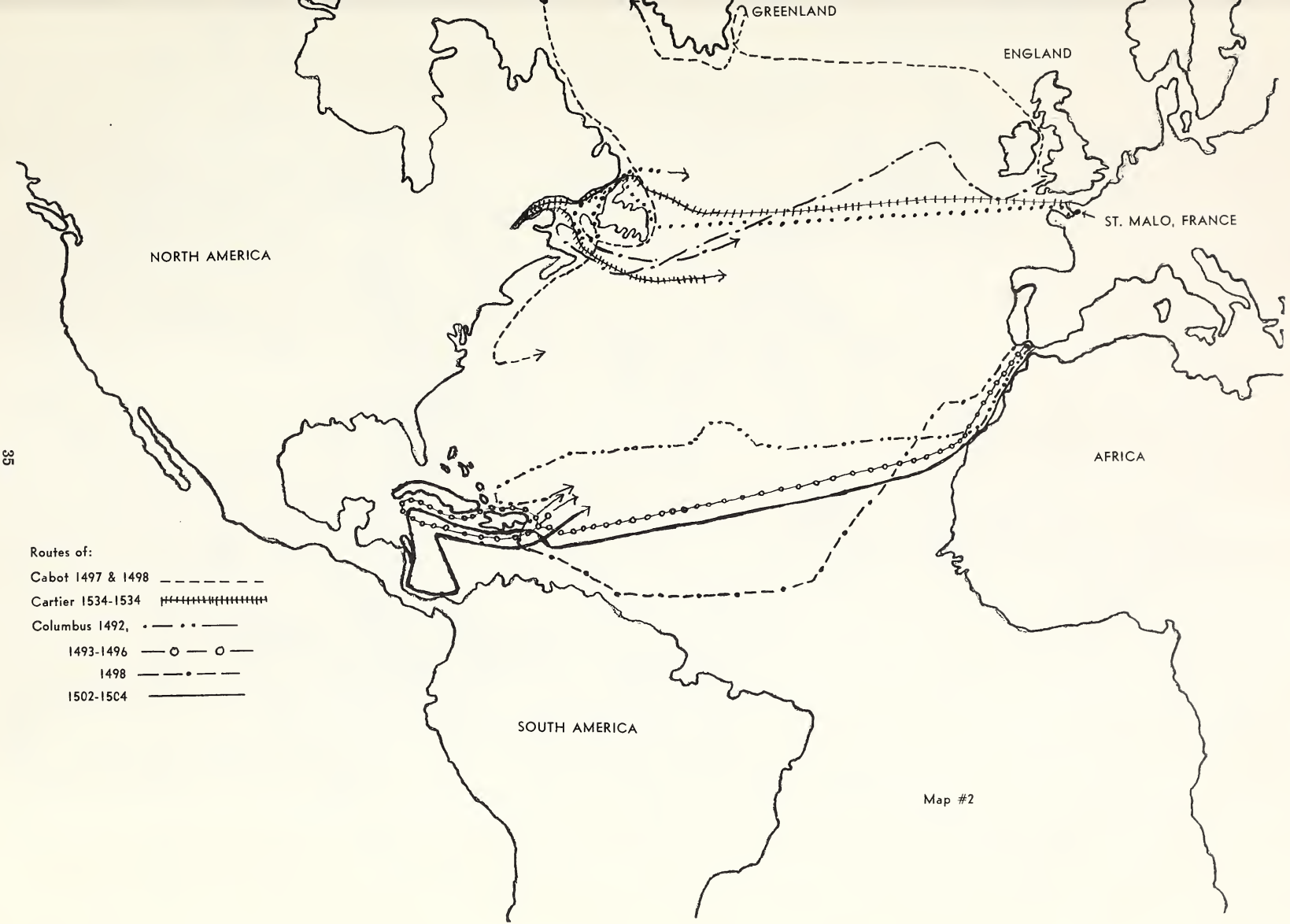


34

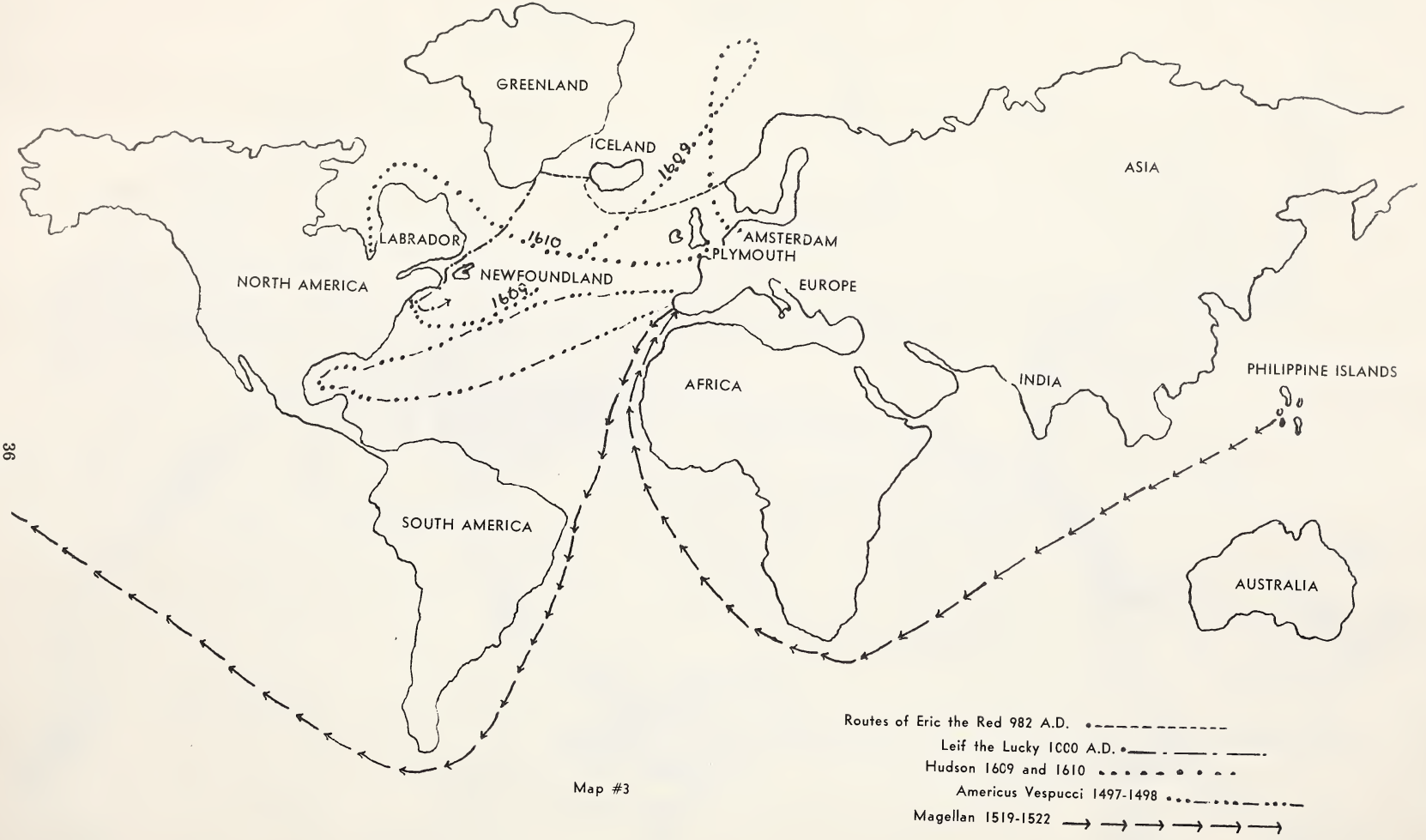
A Parachute.


VENICE
PORTUGAL
SPAIN
LISBON
GOBI DESERT
JAPAN
PERSIA
EGYPT
ARABIA
INDIA
AFRICA
INDO-CHINA
ETHIOPIA
CALICUT
MALAYA
MADAGASCAR
ALGOA BAY
CAPE OF GOOD HOPE (CAPE OF STORMS)
Routes of Marco Polo: 1271-1295
Bartholomew Diaz: 1486
Vasco da Gama: 1497

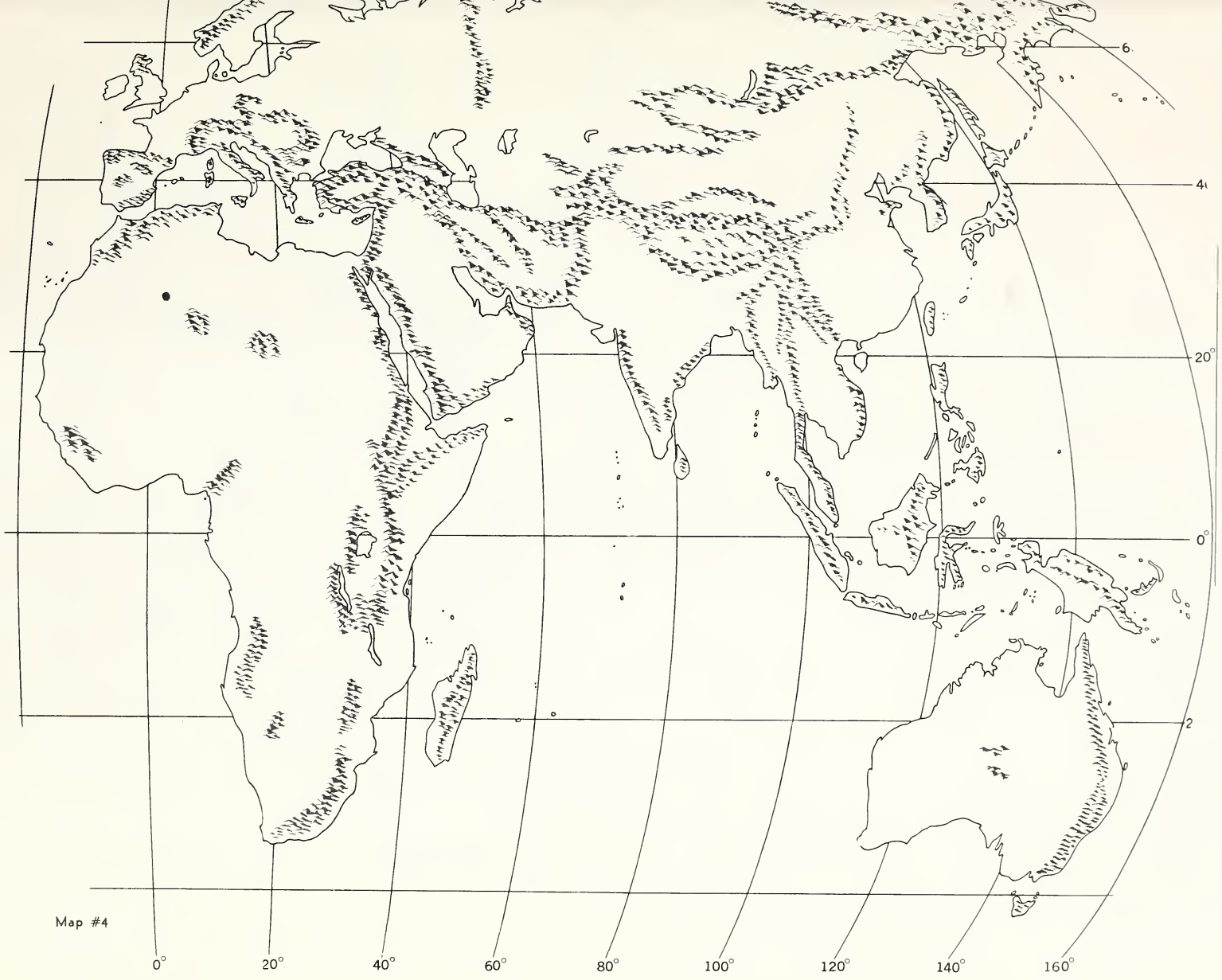
Map #1


GREENLAND
ENGLAND
ST. MALO, FRANCE
NORTH AMERICA
AFRICA
SOUTH AMERICA
Routes of:
Cabot 1497 & 1498
Cartier 1534-1534
Columbus 1492,
1493-1496
1498
1502-1504

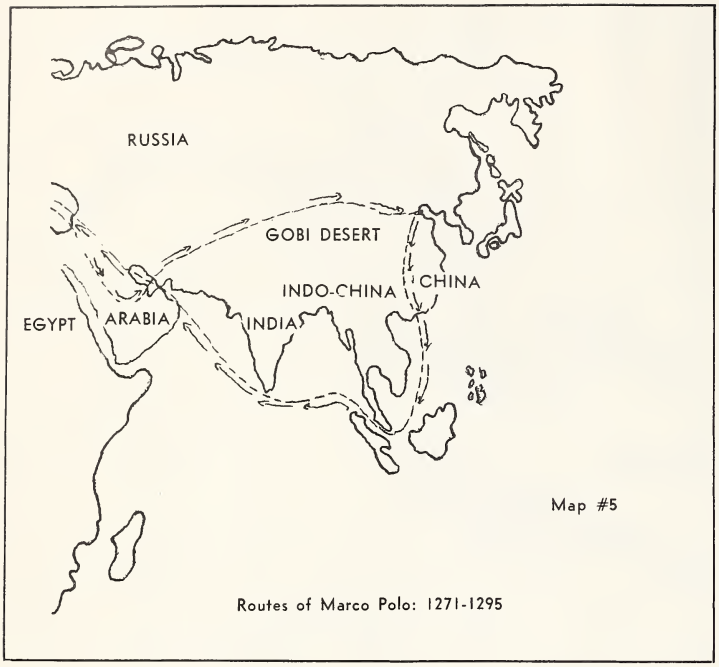
Map #2


GREENLAND
ICELAND
1609
ASIA
LABRADOR
1610
AMSTERDAM
PLYMOUTH
NORTH AMERICA
NEWFOUNDLAND
1609
EUROPE
AFRICA
INDIA
PHILIPPINE ISLANDS
SOUTH AMERICA
AUSTRALIA
Routes of Eric the Red 982 A.D.
Leif the Lucky 1000 A.D.
Hudson 1609 and 1610
Americus Vespucci 1497-1498
Magellan 1519-1522

Map #3



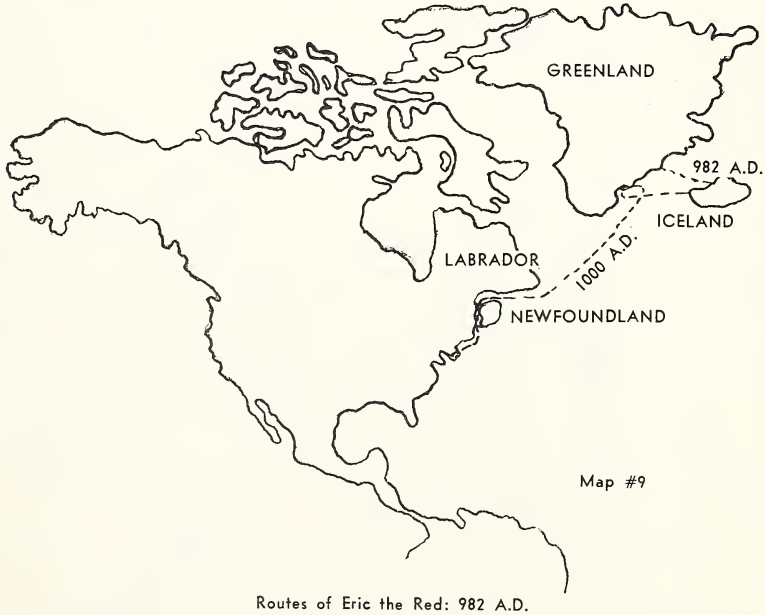

Map #4


RUSSIA
GOBI DESERT
INDO-CHINA
CHINA
EGYPT
ARABIA
INDIA
Map #5
Routes of Marco Polo: 1271-1295

PORTUGAL
LISBON
SPAIN
ASIA
MINOR
PERSIA
EGYPT
ARABIA
INDIA
AFRICA
Map #6
ALGOA BAY
CAPE OF GOOD HOPE (CAPE OF STORMS)
Route of Bartholomew Diaz: 1486

Map #7

Route of Vasco da Gama: 1497




Map #9

Routes of Eric the Red: 982 A.D.
Leif the Lucky: 1000 A.D.

Map #8

Route of Magellan: 1519-1522

GREENLAND
HUDSON BAY
NORTH AMERICA
AMSTERDAM
PLYMOUTH
EUROPE
ATLANTIC OCEAN
GULF OF MEXICO
AFRICA
PACIFIC OCEAN
Routes of Hudson: 1609
1610
SOUTH AMERICA

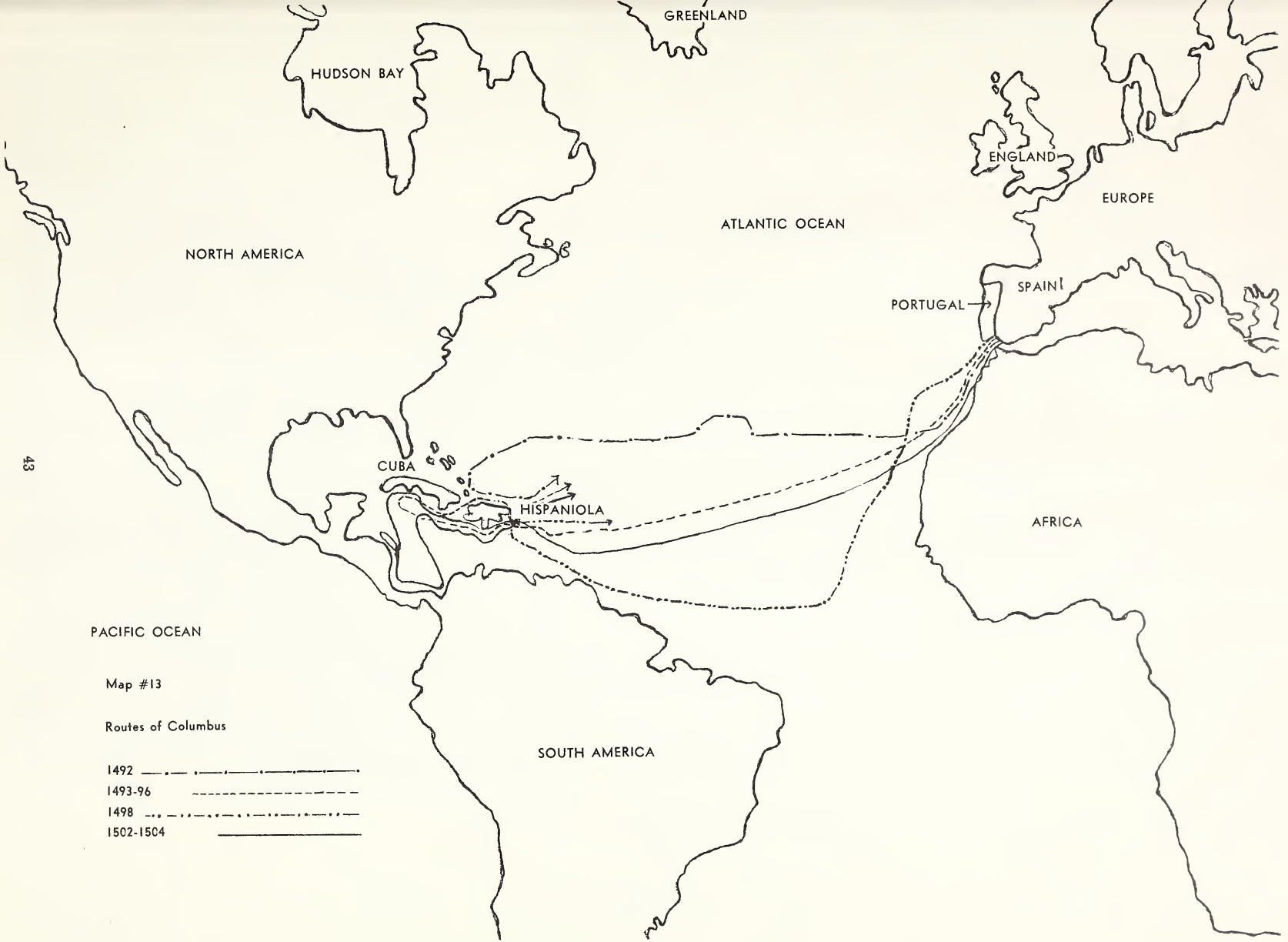
Map #10

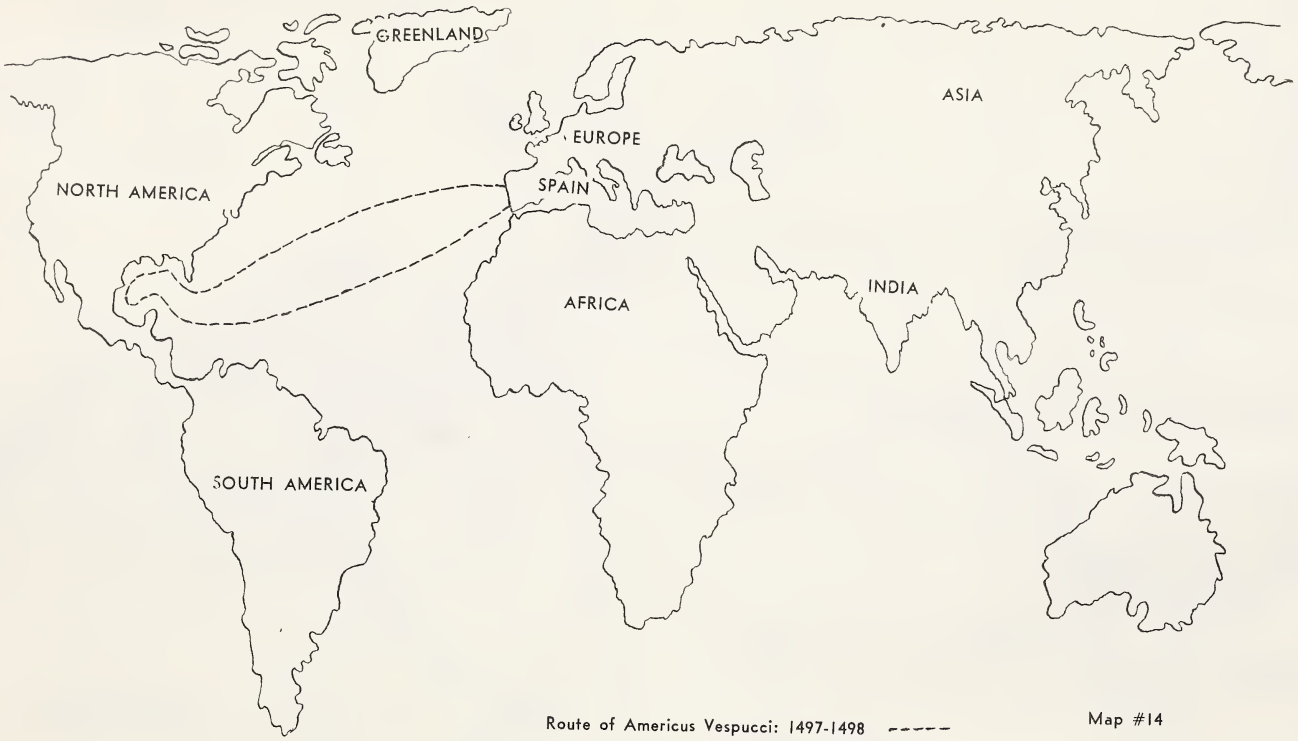
GREENLAND
ENGLAND (BRISTOL)
ASIA
NORTH AMERICA
EUROPE
INDIA
AFRICA
SOUTH AMERICA
AUSTRALIA
Routes of Cabot: 1497
1498

Map #11

GREENLAND
ASIA
ST. MALO, FRANCE
NORTH AMERICA
EUROPE
AFRICA
SOUTH AMERICA
AUSTRALIA
Routes of Cartier: 1534
1535

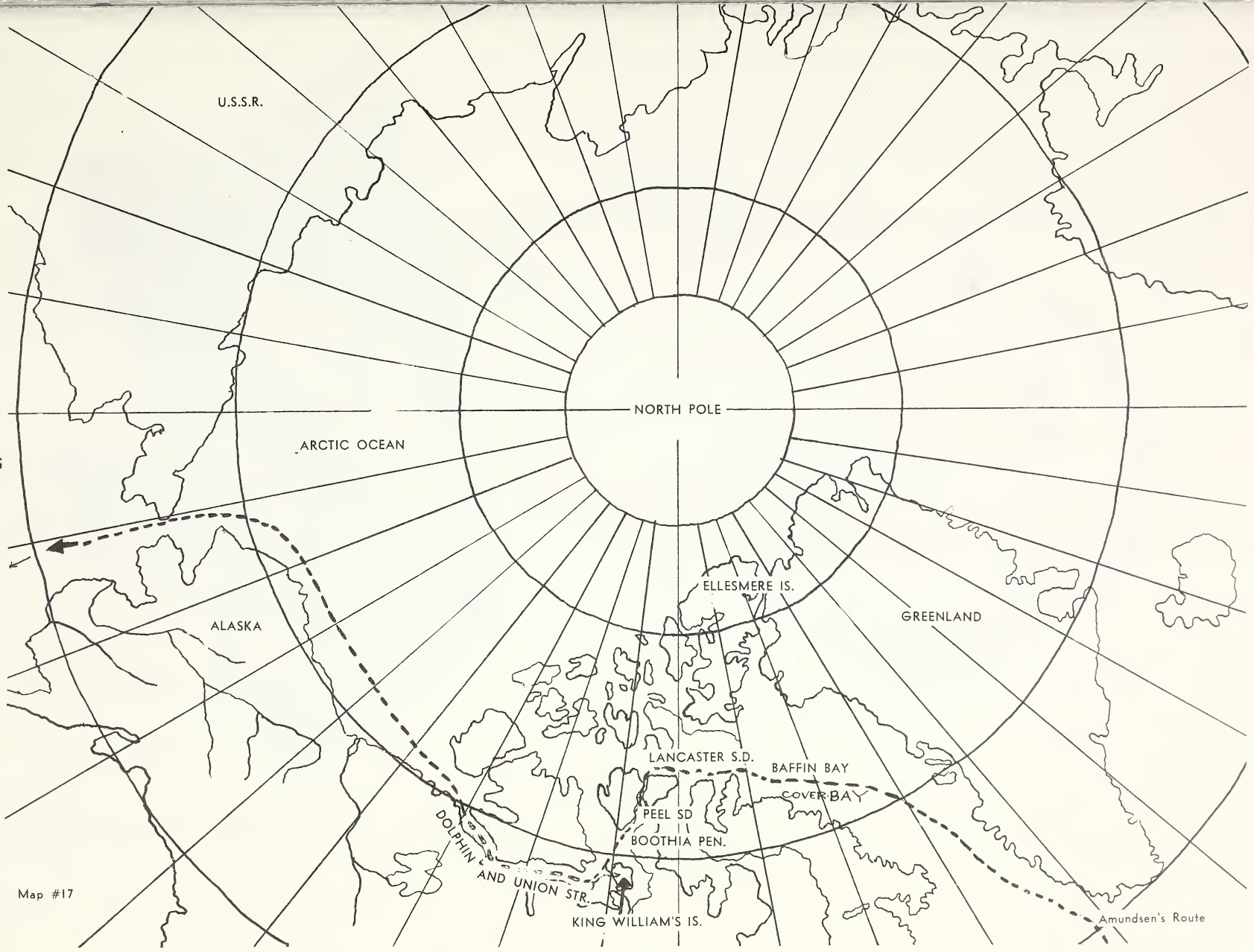
Map #12


GREENLAND
HUDSON BAY
ENGLAND
EUROPE
ATLANTIC OCEAN
NORTH AMERICA
SPAIN
PORTUGAL
CUBA
HISPANIOLA
AFRICA
PACIFIC OCEAN
SOUTH AMERICA
Map #13
Routes of Columbus
1492
1493-96
1498
1502-1504

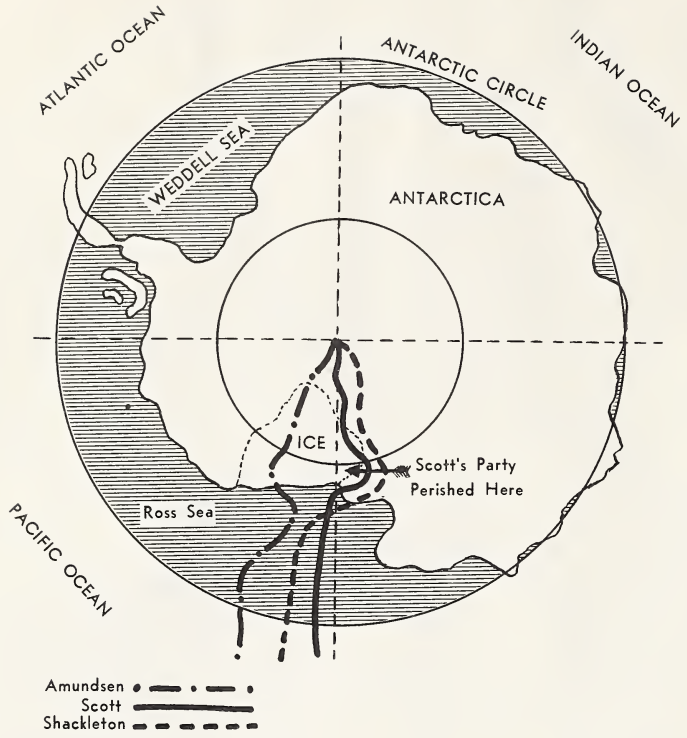


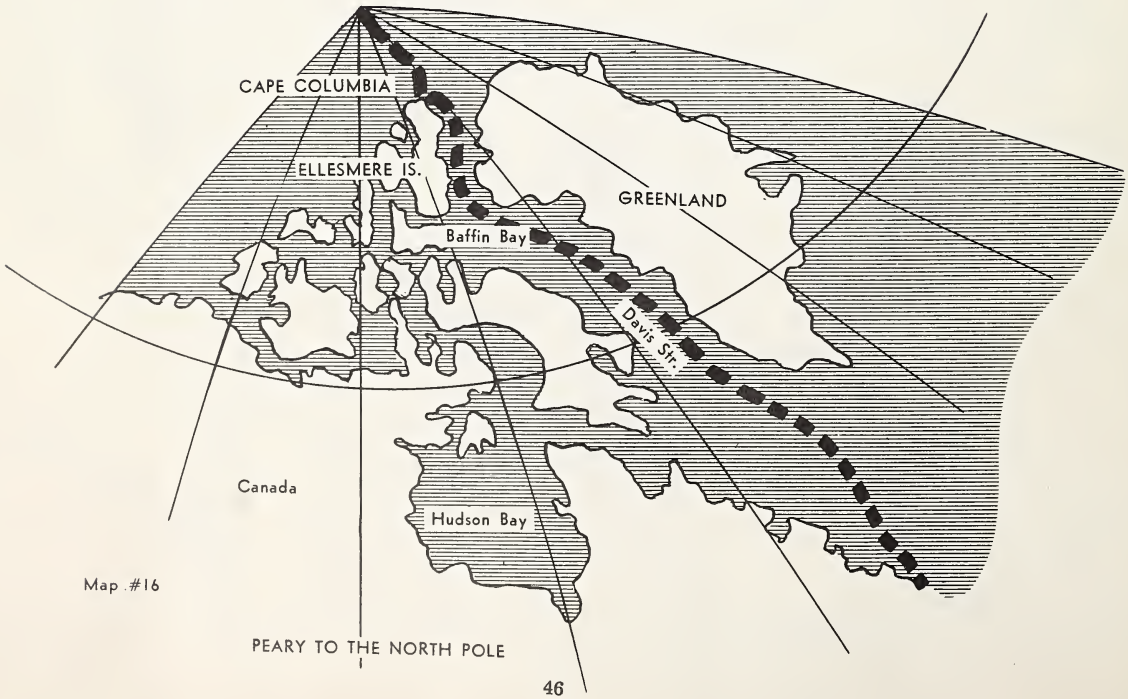

Route of Americus Vespucci: 1497-1498 - - - - -

Map #14


U.S.S.R.
NORTH POLE
ARCTIC OCEAN
ALASKA
ELLESMERE IS.
GREENLAND
LANCASTER S.D.
BAFFIN BAY
COVER BAY
PEEL SD
BOOTHIA PEN.
DOLPHIN AND UNION STR.
KING WILLIAM'S IS.
Amundsen's Route

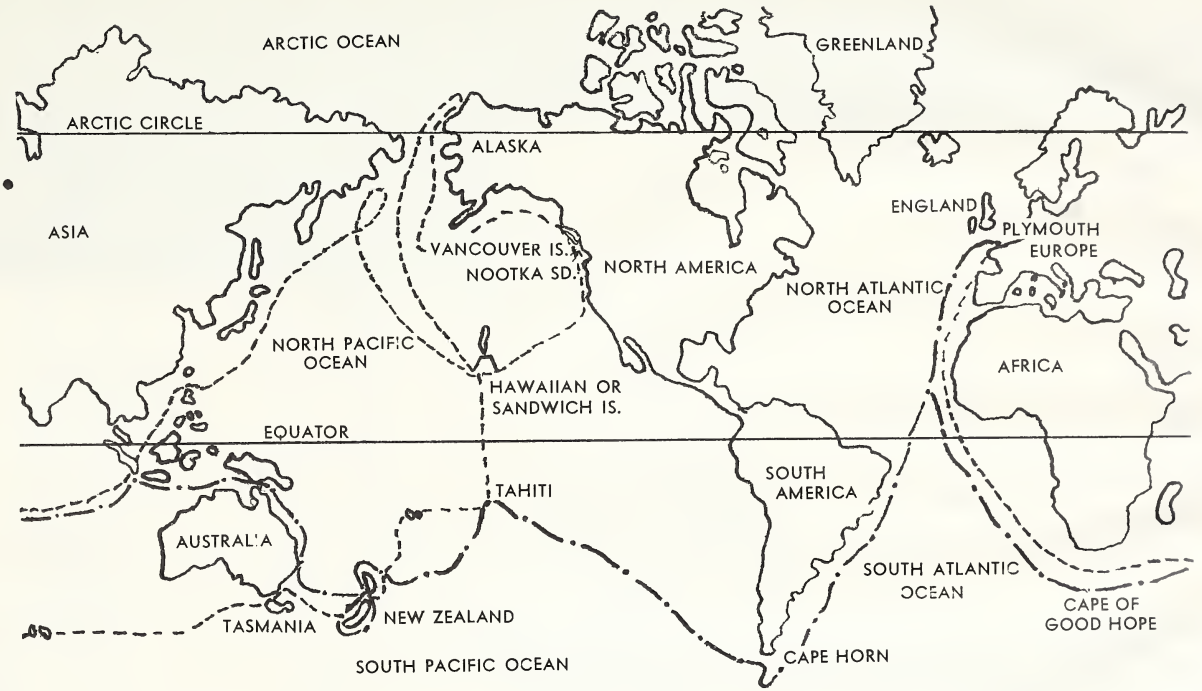
Map #17




Map .#16

PEARY TO THE NORTH POLE

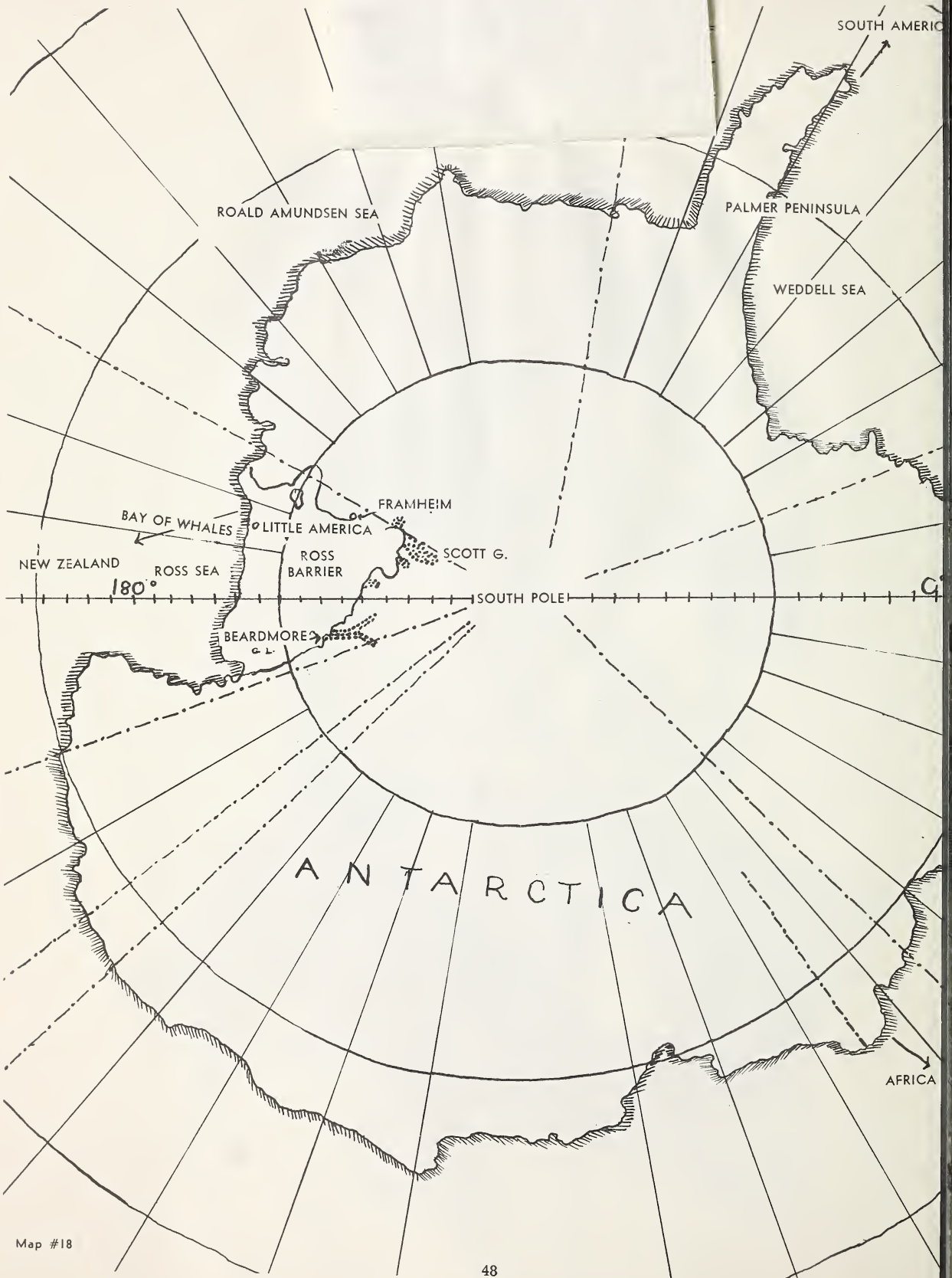



Captain Cook's Voyages

First—1772-1775 • — • — •

Third—1776-1780 – – – – – –

Map #15


SOUTH AMERIC
ROALD AMUNDSEN SEA
PALMER PENINSULA
WEDDELL SEA
FRAMHEIM
BAY OF WHALES
LITTLE AMERICA
SCOTT G.
NEW ZEALAND
ROSS SEA
ROSS BARRIER
180°
SOUTH POLE
BEARDMORE G.L.
ANTARCTICA
AFRICA

Map #18

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